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Solstice Tests Integrated Environments 4
Borland's Janeva Weds J2EE, .NET 4
Rising Mercury Engulfs Performant 4
Data Junction to Deliver Tools for Custom Integration ..7
There's a New Aspect to JBoss 8
Modernizing COBOL A Matter of Relativity 9
Merant Brings New Dimensions to Asset Management Suite 10
Magic Adds Messaging To Development Tool 12
Blue Titan Knits Fabric For Web Services 12
SourceForge Houses 'Gated Communities' 14
.NET a Wise Choice For Installation Tool Vendor ...14
iTKO Knocks Out Defects From Applications 16
ComponentOne Bundles With C# Builder 26
eHelp Puts Some Flash Into RoboHelp 27
LabView 7 Targets Palm OS, Pocket PC, FPGA Devices 29
Virtio Emulates TI's OMAP Innovator Hardware Kit ...29
PalmSource Builds Enterprise Muscle 29
IBM Enables Web Services On Palm, Symbian, J2ME ..30
Altium Sings A BoC Tune 30

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SLASHING WINDOWS CE PRICES, CAPABILITIES TO THE CORE

Microsoft to compete in new device markets

BY EDWARD J. CORREIA

On the heels of Microsoft Corp.'s landmark move to allow customers to market changes to Windows CE source code, the company on June 1 is releasing Windows CE .NET 4.2 Core, and is slashing the starting price for commercial deployment of its embedded operating system from US$15 to $3 per device. Prices drop even further with volume, but the company declined to reveal just how low they go.

▸ continued on page 31

CORE OPERATING SYSTEM SERVICES

Capabilities new to Windows CE 4.2 and included in the Core edition

Networking:
- Bluetooth gateway
- Built-in CSR Bluetooth chip set
- Bluetooth keyboard and mouse input
- L2TP/IPSEC

Communications:
- Firewall service
- SIREN/G 722.1 codecs
- UPnP tools
- VoIP database store
- LDAP provisioner
- File provisioner
- Manual provisioner
- Reference manager
- Wireless access point (802.11)

Debugging:
- Touch driver test app

Servers:
- File server
- Print server

File Systems:
- Binary ROM image file system
- Transaction-safe FAT file system

Source: Microsoft Corp.

IBM Makes Move For RAD Market

Introduces tools for development, testing under Rational division

BY DAVID RUBINSTEIN

Hoping to attract a group of developers it admittedly has not been effective in reaching, the Rational division of IBM Corp. this month is releasing a new rapid application development tool that it's calling Rapid Developer. Also, the company is enhancing Rational XDE and renaming it Rational XDE Developer, introducing XDE Tester and offering the Unified Process in a way claimed to allow greater customization.

The releases mark the first major upgrades since IBM acquired Rational Software Corp. in a deal finalized earlier this year, and indicate where IBM sees the development market going, according to Roger Oberg, IBM's director of market management.

Rapid Developer is based on the notion of architected rapid application development, which chief technologist Arun Gupta explained as a way "to move RAD up to meet the needs of enterprise applications."

DEVELOPER PROFILES

SUB-SEGMENT/ MARKET SIZE	SUITABILITY OF CURRENT TOOLS FOR *N*-TIER APPLICATIONS
J2EE (500,000)	Highly suitable IDEs
Java (1.3 million)	Low to moderate suitability, too difficult
PowerBuilder 4GL, COBOL, RPG (3.3 million)	Ideal for legacy development, IBM targeting for Java or Microsoft development
VB (2.8 million)	Low suitability for future deployments, but most will go to VB.NET
C++ (1.3 million)	Highly suitable, most go to C#

Source: IBM Corp.

Created from technology acquired by Rational last August when it bought development tools company NeuVis Inc., Rapid Developer introduces business-level UML modeling, using predefined J2EE archi-

▸ continued on page 25

Sun to Unveil J2SE 1.5 at JavaOne

BY YVONNE L. LEE

Sun Microsystems Inc. will take the wraps off Java 2 Platform Standard Edition (J2SE) version 1.5 at its JavaOne developers conference in San Francisco June 10-12. The new version of the Java platform is designed to be easier to use, with new language features, including generics and metadata.

Sun refers to J2SE as 'Core Java,' says Shipe.

"J2SE is the core of all Java technology," said Karen Shipe, product line manager for J2SE. "We're actually starting to refer to it [internally] as Core Java."

New features in the release, scheduled for the first half of 2004 and code-named "Tiger," fall along four themes, she said. Those themes are ease of development; monitoring and management; reliability, availability and serviceability; and performance and scalability.

Sun will discuss the latest version of J2SE both at a formal session and at a birds-of-a-feather meeting.

Features designed to make development easier with the new version of the language are its support for generics and metadata, Shipe said. Generics are classes and methods that work the same way on values of different types. Metadata enables tools to generate boilerplate code from annotations in the source code. Since the compiler, rather than the programmer, generates the code, it is less likely to have errors, says Sun.

According to Shipe, J2SE 1.5's new monitoring and manageability features include bundled Java Specification Requests including some Java management extensions, which had previously been available only as optional packages. Shipe did not specify which

▸ continued on page 26

SCO TAKES ANOTHER SWING AT LINUX

Unix owner raises fear, uncertainty, doubt

BY YVONNE L. LEE

The SCO Group in mid-May raised the ante in its quest against what it believes is Linux's infringement of the company's intellectual property in Unix, dropping its own Linux distribution and issuing letters to hundreds of major commer-

▸ continued on page 24

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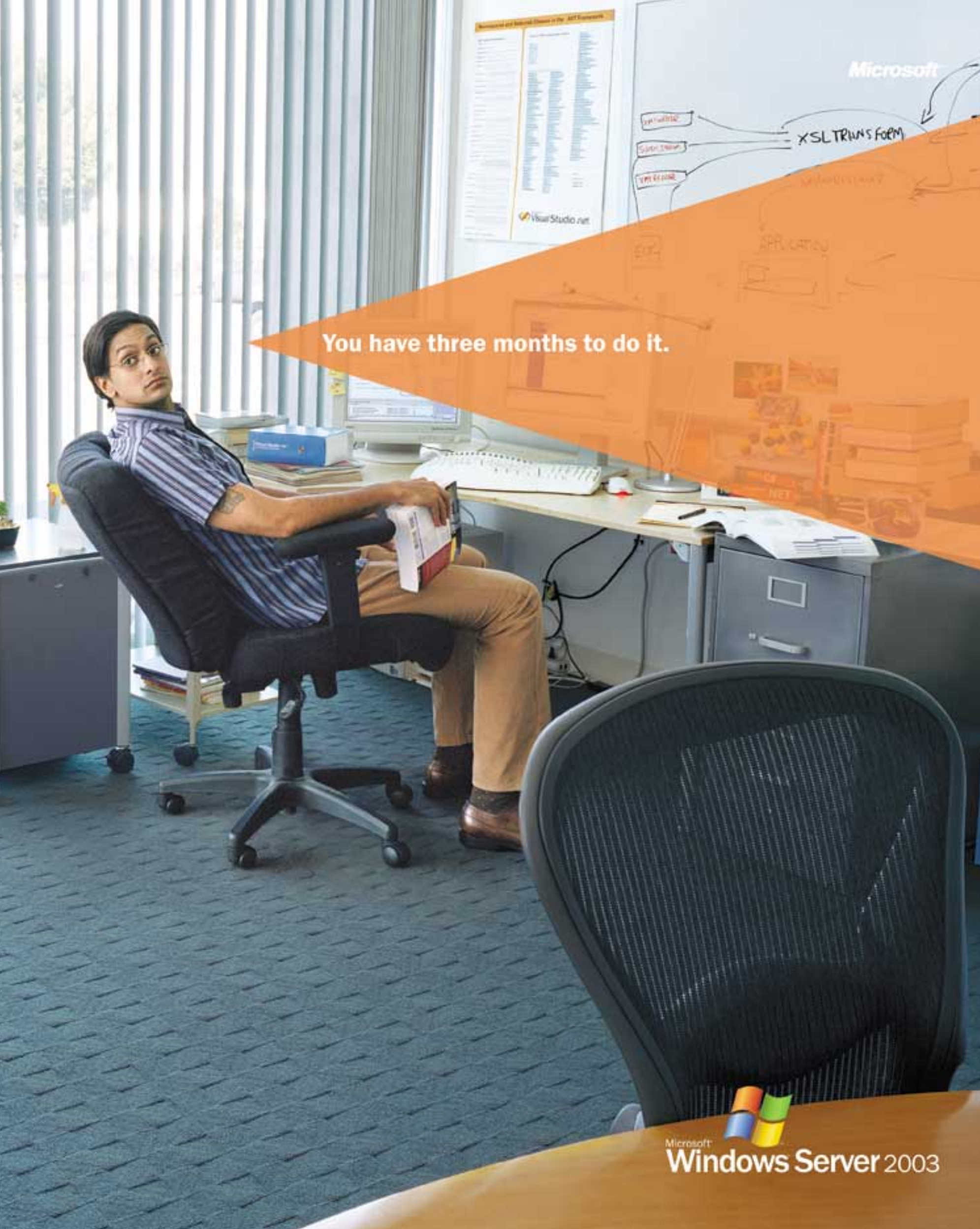
▶ *The **Middleware Company** compared the .NET Pet Shop Web application on Windows Server 2003 to the performance and scalability of a comparable, optimized J2EE™ application. The .NET connected application on Windows Server 2003 is more than 250% faster, 76% less expensive based on price/performance, and required 11,000 fewer lines of code.*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Solstice Tests Integrated Environments

Integra suite offers high-level view of behavior across platforms, protocols

BY DAVID RUBINSTEIN

Class I.Q., a 7-year-old software company, has relaunched as Solstice Software Inc. and come to market with a set of tools it hopes will give it a place at the enterprise testing table.

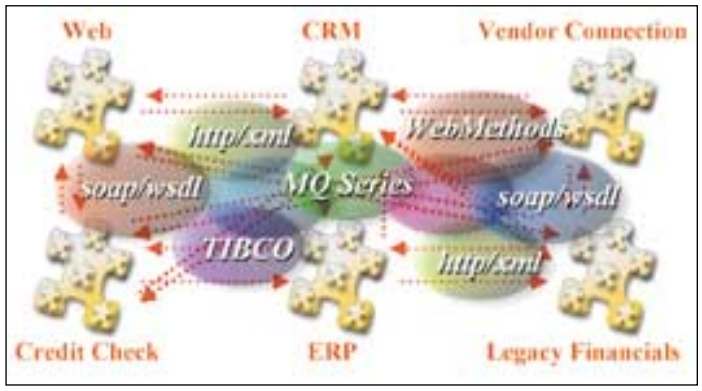
"We relaunched because we clearly understood that without professional marketing, we were Class I Who?" quipped CEO Joe Oddo. "We started in the mid-1990s with a Forte unit testing product. When we saw where that was going, we had to look for other pastures. Our customers led us into the broader integration market."

So with the new name and US$3.8 million in funding raised in the fourth quarter of last year, Solstice (www.solsticesoftware.com) completed work on its Integra Enterprise Suite of tools designed to give testers the ability to validate business logic and message traffic all the way through to a transaction's completion across multiple technologies and messaging protocols, according to Lori Gipp, vice president of marketing.

While the suite is designed to test at a high level of complexity, Gipp noted that part of the battle Solstice faces is that many companies perform little or no testing at all. "There are failures out there the likes of which we haven't seen since the 1980s," she said.

The key to Integra, Gipp said, is a protocol library that offers the ability to test against XML, HTTP, TCP/IP, SQL, FTP, SOAP and WSDL, which she claimed enables users to test behaviors among the components of large, complex integration projects. "It's not flashy, but it's the reason we're able to solve big problems," she said.

Java Message Service and MQSeries also are supported, and the suite can integrate with WebMethods and TIBCO integration software. Solstice also offers an SDK for customers to build additional protocol support. While CORBA is not yet supported, Oddo explained the company is actively working to add that capability. "We do those [other protocols] opportunistically, based on a real business need."



Solstice provides a means of validating business logic and traffic across multiple technologies and messaging protocols.

Anish Parikh, senior systems engineer, explained that the suite also includes simulation and validation tools. Integra Automate is a tool that developers can use to isolate individual components in an integrated environment and test their behaviors individually.

"This brings integration testing into the realm of unit testing," Parikh claimed. You can isolate a credit-check component, for example, and test how it interoperates with external systems. "It addresses all the potential integration points between the credit-check component and the rest of the world," he said.

One tool in the suite, Integra Simulate, gives developers a facility to create a quick model of external systems so they can complete their assignments even before those external systems are available to the project.

"If an environment had an ERP system that was unavailable, a developer could model the ERP system's interface behavior within the rest of the system, so how it communicates with a CRM system or another vendor system can be simulated," Parikh explained. "It provides a facade of an ERP system." By testing before all the components of an integrated system are in place, the cost of detecting and fixing errors can be reduced, he claimed.

Another tool, Integra Validate, Parikh said, is designed for flat files and databases, to validate that the content returned in a transaction matches predefined criteria. "You can apply business rules to intermediate data results, such as log files during transactions, to ensure you're getting what you expect," he said.

The Integra tools offer a way to test at the architectural level, and can be used with unit-testing tools that drill down more deeply into the root cause of a problem, and with load-testing and performance tools. "We're on messaging and functional testing," Gipp said. "We're going after a niche. We're not looking to get into everyone's business."

The Integra Enterprise Suite, with five developer seats, one vendor-specific protocol and a year of maintenance, sells for US$150,000, Oddo said. ▮

Borland's Janeva Weds J2EE, .NET

BY YVONNE L. LEE

Borland Software Corp. has introduced software that connects .NET front ends to CORBA and J2EE-based applications.

The software, called Janeva—a blend of Java and Geneva—seeks to bridge the two Web services platforms. "Well, there's Geneva, Switzerland; and Borland is the Geneva of technology," said Michael Swindell, director of products and technology. "It's kind of Borland's role to connect disparate software."

Janeva includes a Java-to-C# compiler and a CORBA IDL-to-C# compiler, which automatically generate C# stubs and assemblies. Janeva also includes a runtime component that translates .NET remote calls to IIOP and is embedded in the final application.

Janeva will not ship as a separate product, but will be included with several of the company's development tools, including a new J2EE application server geared toward departments in large corporations. The new Borland Enterprise Server is limited to 25 concurrent users and does not work on clustered servers. Also, because of the target market, it will be sold through Borland's channel partners, said J.T. Sison, director of business development and product marketing.

Borland Enterprise Server, Team Edition is scheduled to be available in early June for US$1,995 per processor.

JBUILDER 9 SHIPS

In addition to announcing Janeva and the app server, Borland in early May began shipping JBuilder 9, which includes Optimizeit Suite 5.5 performance monitor and tools the company acquired when it bought Starbase.

The Optimizeit Automatic Memory Leak Detector helps keep code running efficiently, and Optimizeit Progress Tracker produces snapshots of the server to help monitor and measure the impact of performance changes.

JBuilder 9 also includes StarTeam, which Borland acquired with Starbase, and Together Edition for JBuilder, which it acquired from TogetherSoft. StarTeam provides version control and configuration management. Together Edition for JBuilder is a UML modeling tool.

JBuilder 9 works with the open-source CVS version control system, and IBM's Rational ClearCase and Microsoft's Visual SourceSafe source-code management systems. Developers can check code in and out of these systems directly from within JBuilder.

JBuilder 9 Developer and Enterprise include a solution for building mobile Java applications for MIDP devices from Nokia, Siemens, Sprint, Sony Ericsson and others, according to the company.

It also has features to automatically deploy on BEA's WebLogic 8.1, Borland's Enterprise Server 5.2, IBM's WebSphere 5.0 and Sybase's EAServer 4.2.

The Developer and Enterprise versions of JBuilder 9 now can export to Apache Foundation's ANT build tool.

JBuilder 9 Personal edition is a free download. The Developer version is $1,000. The Enterprise version, which includes UML and SQLJ, is $3,500. ▮

RISING MERCURY ENGULFS PERFORMANT

BY EDWARD J. CORREIA

Mercury Interactive Corp. acquired J2EE test-tools developer Performant Inc. for US$22.5 million in cash, capping a busy year for a company that formed numerous partnerships with major industry players, including BEA, Oracle, Merant, PeopleSoft and Siebel. The deal closed on May 5.

Mercury (www.mercuryinteractive.com), which develops and markets application performance testing tools and services, will use Performant's J2EE diagnostics tools to expand its Business Technology Optimization strategy unveiled last fall. The Performant software, which reportedly is capable of pinpointing problems in multitiered J2EE applications with code-line precision, will supplement Mercury's Optane application testing and performance tuning suite to include life-cycle monitoring, visibility and quality management.

Zohar Gilad, vice president of products at Mercury, characterized its tools as central to the advancement of J2EE. "With our joint offerings, we have optimized the performance levels of J2EE applications [by as much as] 1,000 percent. The ability to produce these results is accelerating the adoption of J2EE as an environment for business-critical applications."

Performant founder Ashutosh Tiwary will stay on as vice president of J2EE diagnostics. Performant's technical staff will remain in its Bellevue, Wash., offices, according to the company. ▮

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Data Junction to Deliver Tools for Custom Integration

Sees messaging, not database orientation, as critical area for management, control

BY DAVID RUBINSTEIN

Believing that the essence of integration projects lies in messaging, Data Junction Corp. this month is set to release djCosmos, a set of tools for companies to use to build message-based integration solutions.

"This is not an application for integration, but it's the tools, widgets and so on to implement as you see your needs," said Greg Grosh, founder and executive vice president of marketing (www.datajunction.com).

Grosh explained that whether a message comes in as a block of EDI transactions or as a SOAP call, it is still the message that is the unit of work, so an integration solution has to be focused on the message. Also, because messages come in many varieties and in large quantities, integration tools must be standards-oriented and able to scale for volume of messages.

DjCosmos, he said, "sits at the edge of your enterprise, sort of as on-ramps and off-ramps into major messaging environments. You can implement distributed application integration by creating small, lightweight, no-administration integration services."

A key part of djCosmos is the Integration Architect, which includes design tools for mapping transformations, schemas or unstructured data however a company sees fit. Runtimes can be embedded in-process, using Java, C or COM wrappers; out-of-process wrappers include JCA, SOAP and message-driven bean support.

In-process means the runtime is always at the same address space, while out-of-process allows a specific transformation or integration to be available always to any application, Grosh said.

"You can set up one runtime just to convert EDI to XML 24 by 7," he said. "You just configure it and choose the wrapper."

Also, runtimes can be set up as static integration services via a command-line interface, such as a node in an enterprise service bus that is specific to the operating system, such as in daemons in Unix or NT services in Windows; or as a more classic server setup under which any J2EE-compliant application can ask for a transformation, and the server will call one or more of the other engines as needed. Users can set up RMI, JCA or SOAP interfaces to the server, which is a first for Data Junction, Grosh added.

Also part of the set is Integration Repository, which includes a Repository Manager for global search and replace and is used to deploy the designs, and an Integration Manager that can point to the engines to monitor transactions at runtime. "You can see that 451 EDI transactions were done in an hour, and 1 percent were rejected, and here's why," Grosh said.

DjCosmos, which runs on Linux, Unix, Windows, as well as IBM mainframes and midrange systems, costs US$2,500 per seat. ■

DRIVERSTUDIO TACKLES MULTIPLE TARGETS THROUGH VS.NET

BY EDWARD J. CORREIA

Compuware Corp. in early May said that version 3.0 of its DriverStudio device driver development environment, due for release this month, will integrate with Microsoft's Visual Studio .NET. With the new release, developers will be able to use the tools to build and test NDIS, TDI and WDM drivers for 32- and 64-bit Windows systems from within the Microsoft IDE, the company says.

According to John Carpenter, product manager at Compuware (www.compuware.com), DriverStudio is compatible with Microsoft's Driver Development Kit (DDK) and can use the DDK's C++ compiler.

The new version also will include Visual SoftICE, which Carpenter described as a two-machine GUI debugger that uses one 32-bit machine as a host to debug one or more 32- or 64-bit targets, including those equipped with Intel's Itanium and Itanium 2, and AMD's Opteron and Athlon64 processors. Debug targets can now be connected via IP network. SoftICE, the nonvisual debugger, also has been enhanced to permit direct editing of data in local watch windows.

DriverStudio 3.0 is priced at US$2,499 per developer seat. ■

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There's a New Aspect to JBoss

Open-source server extends J2EE functionality to standard Java objects

BY YVONNE L. LEE

Open-source J2EE server vendor JBoss Group LLC in late May released the developer version of JBoss 4, with features that give standard Java programmers the ability to do things in Java objects that previously could be done only with J2EE and Enterprise JavaBeans.

"In [JBoss] 4, we take aspect-oriented programming and we allow the developer to directly interact with the system," said president Marc Fleury (www.jboss.org).

Aspect-oriented programming (AOP) is an emerging programming methodology that modularizes behavior that cuts across typical divisions of responsibility, such as logging, context-sensitive error-handling, performance optimization and design patterns.

Specifically, the Web server supports ACIDity and persistence for all objects.

ACIDity doesn't make the Web service tart. It stands for Atomic, Consistent, Isolated and Durable, and describes the properties of enterprise transactions. An atomic transaction is explicit. In a failure, all procedures are undone and data rolls back to its previous state. Consistency means that the application has enough information to recover in a crash. Isolation means that the transactions occur independently of other transactions happening at the same time, and durability means that the transactions remain permanent, even in a time of system failure. Persistence is being able to take an object and store it in a database.

In another way of bringing J2EE functionality to plain Java objects, JBoss 4 will make it possible for any specified objects to be accessed remotely using Web services, RMI or CORBA. Previously, such objects could be addressed remotely using Web services only, Fleury said. These are collectively what JBoss calls aspect-oriented programming, taking similar control of similar code running throughout the system.

The application server also will feature transparent task replication, declarations and security.

"What's new is not the feature itself; what's new is what was before limited to J2EE development. We make these available to standard Java objects," Fleury said.

Many of these features that make programming easier are already present in Microsoft's C# language, according to Fleury. "We're copying some features of the C# language that we like. Microsoft does good things."

Adding these features, which are not present in the Java specification, could result in a noncompliant server, but Fleury said he is forging ahead nevertheless.

"Because it's not in the spec doesn't mean we shouldn't implement it," he said. "In front of us, we've got .NET, [which] doesn't have a spec."

The full version of JBoss 4 is due by the end of 2004. ▮

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Modernizing COBOL a Matter of Relativity

BY EDWARD J. CORREIA

To Relativity Technologies Inc., COBOL is no longer a target for migration, but a friend to be embraced and nurtured. This new philosophy is reflected in the Modernization Suite, a new set of life-cycle and migration tools shipping later this month that the company claims will help companies maintain and enhance COBOL applications instead of simply converting them to Java or C++.

Modernization Suite pricing starts at US$200,000 for a single seat, and drops with volume.

"Previously, the company had been focused on transforming COBOL code into Java," said Relativity CEO Steve Maysonave, referring to the company's offerings, formerly named RescueWare. According to Maysonave, frustration levels were high among customers maintaining applications written in COBOL, which he said is commonly thought of as a doomed platform. "Every time they modify [an application], it gets more brittle. And on a burning platform, customers are interested in getting those apps off the platform. RescueWare was a play to that strategy."

COBOL is not a doomed platform, says Relativity's Maysonave.

But as its migration product evolved, the company (www.relativity.com) discovered there were advantages to leaving some of the business logic in COBOL while modifying—or modernizing—other parts of a program. "The technology we developed [for migration] addresses everything from the day-to-day grind of keeping the app up and running, to rearchitecting for reduced complexity and improved reusability, to integration with Web services, migrating UI code into Java and migrating from a hierarchical data [structure] into a relational one."

The result was two new modules: the Application Architect, which automates COBOL componentization by separating application business logic into user interface and data access layers, and the Business Rule Manager, which searches for and identifies business rules using developer-defined criteria. Developers tag the rules and information is added to the repository that defines what business process that rule is associated with and what other rules it is grouped with. "As market changes demand changes to rules, the Business Rule Manager presents the appropriate rules to the developer, drastically reducing the amount of code a developer has to sift through."

The suite also includes enhancements to former RescueWare modules Transformation Assistant, its COBOL-to-Java/C++/VB code conversion utility, and Application Analyzer, which Maysonave described as a noninvasive tool for creating metamodels. "Developers can look at data-flow graphics, navigate through apps and drill down to source code to see which elements are passed from one program to the next. It's an easy way to get a total system view of an app." ▮

News Briefs

COMPANIES

Software security vendor **Rainbow Technologies Inc.** has acquired **Proteq Ltda**, a Brazilian security-token provider, for an undisclosed sum . . . **Serena Software Inc.** has integrated its ChangeMan DS change manager for distributed systems with the latest version of **Mercury Interactive Inc.**'s global test management software, TestDirector.

PRODUCTS

Commerce One Operations Inc. is offering an open-source SOAP XML SDK. The **DocSOAP XML Development Kit** includes a parser, XML bean generator, and framework APIs for SOAP 1.2, SOAP with Attachments and DIME . . . Seapine Software Inc. has updated its **Surround SCM** source-configuration management system. Version 1.5 integrates with Guiffy's SureMerge utility to compare and merge source files; it also offers shadow folders, advanced searching of the repository, and branch freezing to prevent changes from being made. Surround SCM costs US$595 per developer seat . . . Basis International Ltd. has updated its Business Basic language. The **BBj 3.0** environment, which is implemented in Java, supports Web services and Multiple Document Interface, which lets developers work with more than one document in the same window. It also includes namespaces, a new visual control library and event timer . . . Macromedia Inc. has released **Flash MX Data Connection Kit**, a US$299 set of prebuilt links to a variety of external sources. It includes Macromedia's Firefly Components and Flash Remoting MX Developer Edition . . . 4D Inc. is offering **4D for Dreamweaver MX**, a plug-in that inserts 4D tags into Web sites designed using Macromedia's tool. 4D is a database-driven development platform . . . PolarLake Ltd. says that it will ship a new J2EE-based XML and Web services integrator, called **JIntegrator**, this month. The company ▸ continued on page 14

Merant Brings New Dimensions To Asset Management Suite

BY DAVID RUBINSTEIN

Merant Inc. late last month introduced what it is calling the first single framework for managing assets from mainframes across distributed platforms with the release of a new Enterprise Dimensions suite.

The suite consists of Dimensions 8.0, an update to its PVCS Dimensions configuration management tool; Dimensions for z/OS, a version for IBM's mainframes; and a new Enterprise Build tool that was created out of an OEM agreement with Catalyst Systems Corp. for its OpenMake tool.

Because the Web-based suite is built on a single repository, users can capture and manage metadata from anywhere within the enterprise—whether they be on Linux, Unix, Windows or the mainframe, and can make changes without having to leave their development environment, according to Ash Owen, director of product marketing at Merant (www.merant.com). Dimensions uses 128-bit encryption to secure the system.

While other tools support both mainframe and distributed applications, Owen said those users are left with multiple solutions and multiple repositories, making asset management more difficult. "There's no way to baseline and build from a single main line," said Owen. "With Dimensions, all metadata on assets and issues are available from a central repository."

Enterprise Build adds a new dimension to the suite by adding mainframe build capabilities, something that was lacking from Merant's earlier OS/390 agent. The ISPF panel interface has been overhauled to allow access from anywhere in the enterprise; the user doesn't have to be on the mainframe to manage those assets, Owen said.

Further, Enterprise Build allows developers to initiate builds locally and then spawn them off for remote builds, Owen said, as the solution is Web-based. The new build tool helps automate the process by letting users define a repeatable build process, and can use Ant scripts and Java. Because it is automated, it can be used by developers without having to create static makefiles, he claimed. The build tool runs within IBM's Eclipse and Microsoft's Visual Studio .NET development environments.

Enterprise Dimensions works with Oracle and IBM DB2 databases, and SQL Server support is expected later this year, Owen said, also citing improved impact analysis that provides an assessment of the impact of a change before the change is made.

Enterprise Dimensions 8.0, including z/OS and Enterprise Build, costs US$125,000 per LPAR, or logical partition of a mainframe, the company said. Enterprise Build costs $299 per named license; a concurrent license sells for $899. Dimensions 8.0 costs $3,200 per named license and $6,400 for a concurrent license. ■

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Magic Adds Messaging to Development Tool

BY DAVID RUBINSTEIN

Two months after announcing a new integration suite based on its eDeveloper application assembly tool, Magic Software Enterprises Ltd. has updated eDeveloper with additional messaging and integration features. Version 9.4 of eDeveloper is included in Magic's iBOLT Integration Suite ("Turn Development Into Integration, Like Magic," April 1, page 20).

According to Glenn Johnson, director of marketing at Magic (www.magicsoftware.com), eDeveloper is a rapid development tool that targets vertical markets by allowing business people with domain expertise to create applications based on the business logic they require. "It is not a line-by-line, code-based tool," he said. "Instead of text-editing capability, it looks more at team development and debugging" in a drag-and-drop, graphical way.

With its new capabilities for Java Message Service and Microsoft's MSMQ middleware, Johnson said eDeveloper can become an important tool in hybrid environments. "You can access a COM object and send a Java message to a third application," Johnson explained, noting that his experience with Magic shows that most development shops have a variety of platforms and technologies.

Development in eDeveloper is done based on workflow, Johnson said, as table-driven selections are used to meld components into composite applications. The tool, available now, sells for US$5,500. ■

ANNOUNCING
DevTrack 5.1
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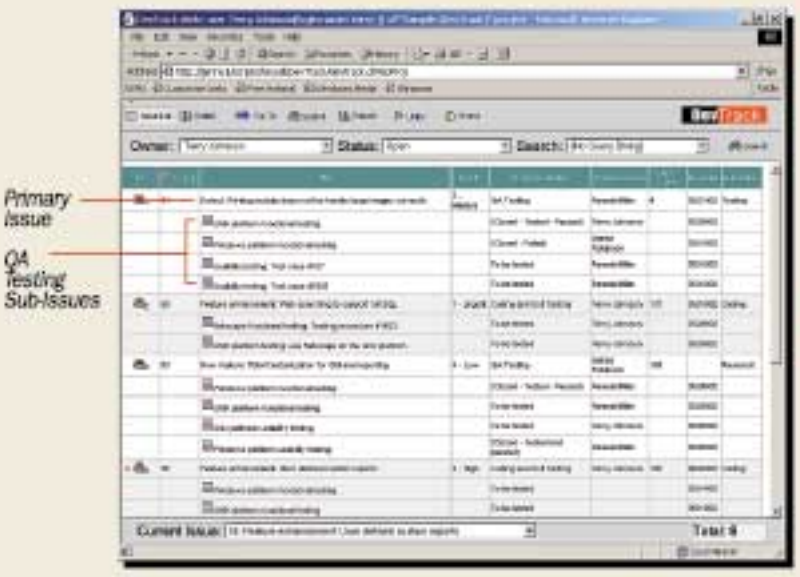

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BLUE TITAN KNITS FABRIC FOR WEB SERVICES

BY DAVID RUBINSTEIN

Blue Titan Software Inc. has released version 2.0 of its Network Director for Web services, a set of distributed software components and network fabric services for managing Web services.

The new version includes a set of so-called fabric services that allows policy-based management of Web services. Those services, which provide access control, and version control and prioritization, are themselves exposed as Web services for use in what Blue Titan (www.bluetitan.com) is calling adaptive policy execution.

Those policies can implement workflow rules that can change in real time based on application activity, said Sam Boonin, vice president of marketing.

Also new to version 2.0 are a publish/subscribe messaging service based on SOAP. Version 2.0 also supports the WS-Policy, WS-Security and WS-Reliable Messaging specs, Boonin said.

"We provide gear for people to create their own Web services network," Boonin said. "Any Web service can be registered in Blue Titan, and we essentially become the WSDL of record. The end point becomes our control point" from which messaging and routing occur.

The benefit, he said, is that Blue Titan's network handles authorization, versioning and security, Pricing begins at US$150,000. ■

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News Briefs

MORE PRODUCTS

◂ continued from page 10

also will launch a new messaging integration server. The forthcoming Database Integrator version 3.0 adds support for IBM's DB2 . . . NetEdge Software Inc.'s **Web Services Enabler for Microsoft Excel** will be available this month. The product allows Excel 97/2000/XP to access Web services publishers as if they were databases . . . Velare Technologies Inc. is offering a beta of **ATCT**, its Java tool for asynchronous transfer of control threading. ATCT allows asynchronous process flows to be implemented sequentially . . . **MDE for Struts**, an Eclipse plug-in that turns UML diagrams into an MVC user interface implementation using the Struts framework, has been released by Metanology Corp. Its price is US$399 for the standard edition, which uses an existing Struts architecture, or $799 for the MetaProgramming Edition, which includes source for creating a new Struts architecture . . . Bluestream Database Software Corp. has updated **XStreamDB**, its Java-based XML database. Version 3.0 includes a new resource manager, event triggers, automated backup and binary data support. XStreamDB costs US$500 per developer seat; the runtime starts at $1,300 per server processor . . . Version 6.2 of Etnus LLC's **TotalView**, a debugger for multithreaded C/C++ and Fortran applications, runs on Itanium 2 in addition to SPARC and *x*86 . . . Farpointer Technologies Inc. has released a shareware version of its **iConductor Server Module**, which adds rules-based business logic on the Apache 2.0 Web server. The "try before you buy" version can be used for noncommercial applications; commercial licenses are US$699 per seat . . . **TCP Linda** is a new programming tool that lets applications run in parallel on clusters. TCP Linda, from Scientific Computing Associates Inc., creates a virtual shared memory space that works with C, Fortran and Java applications . . . Virtuas Solutions LLC has renamed and enhanced its **Web Application Model**, a Java MVC framework, now called **TurboM2**. The latest release uses the Java Standard Tag Library, converts request data into Java data objects, and is interoperable with the J2EE servlet security model. The company also released TurboM2 as open-source software . . . Eiffel Software Inc. has updated **EiffelStudio** to improve its .NET incremental compiler, and to allow some libraries to work in both .NET and Win32 applications. Version 5.3 also is available for Mac OS X . . . Microsoft Corp. is offering a **Windows Powered Smartphone Developer Kit** from www.microsoft.com/mobile/developer . . . Softel vdm Inc. has updated its **SftTabs/ATL for Visual Basic** and **SftTabs/NET 5.5 for VS.NET** tab controls. The new releases introduce hidden tabs and other new tab features. Pricing starts at US$299 . . . Raima UK has released **I-Reports Server 4.5**, a server-based database report generator for the Birdstep and Velocis embedded databases. Previous versions were for clients only. The software includes a query engine, report designer, query builder and report viewer . . . Corel Corp. has released **Smart Graphics Studio**, an editor and design environment for Web services-compatible scalable vector graphics (SVG) documents . . . Version 4.0 of TGS Inc.'s **Open Inventor** toolkit for 3D graphics includes a new Qt-compatible library, support for tiled displays and bump mapping, and improved transparency. The library, with more than 1,000 classes, runs on C++ and Java . . . Version 1.1 of **IronEye SQL**, a Java database development tool from IronGrid Inc., includes an Ant task that allows performance testing to be included in the software build process. IronEye SQL, US$395, exposes the SQL being generated by an application and summarizes the information using a single graphical interface.

PEOPLE

Visual Numerics Inc. has promoted **Phil Fraher** to COO. Fraher joined the company in January 2002 as EVP of North American Operations . . . **Brian Elloy** is Borland Software Corp.'s new VP and general manager for enterprise solutions; previously, he was a VP at Oracle Corp.

STANDARDS

The W3C has released **SOAP 1.2** as a proposed recommendation. This includes the SOAP Messaging Framework, SOAP Adjuncts and a primer. The review period ends June 7. ▮

SourceForge Houses 'Gated Communities'

In version 3.3, project managers can control access by third parties

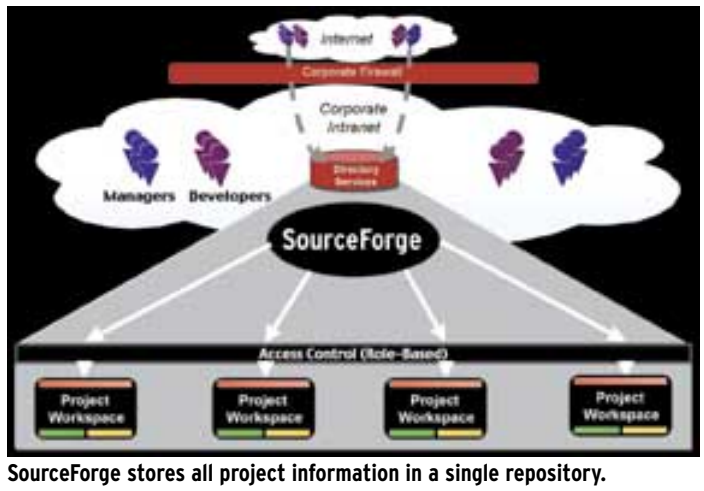
BY DAVID RUBINSTEIN

In the most recent version of its SourceForge Enterprise Edition collaborative development environment, released in late May, VA Software Corp. has introduced the notion of "gated communities," where outsourced projects can be watched and controlled, and where the efforts of the third parties are more closely tied to the team's work.

Also new to version 3.3 are support for the WebDAV protocol, integration with Merant's PVCS Version Manager, improved issue-tracking and more extensive monitoring and notification, according to Dan Bressler, director of product marketing at VA Software (www.vasoftware.com).

Bressler added that SourceForge 3.3 ships with an Ant build tool adapter that he explained is an XML RPC hook that will allow organizations with nightly builds to check out the code from PVCS or IBM's Rational ClearCase, which has been supported, and then do a build and store the results of the build right in SourceForge.

Using WebDAV, managers can create project Web sites within SourceForge. By setting role-based access levels to these sites, managers can grant limited access to a project partner or contractor, for example, by partitioning off the workspace, Bressler said. This gives a greater degree of control over outside work being done on a project, he added.



SourceForge stores all project information in a single repository.

Because all the information is stored in one repository, parent-child relationships can be created that link issues to documents and files across multiple projects, Bressler noted. In SourceForge 3.3, users can capture all code changes, and deliver information through a new unified configuration dashboard. Requirements and project updates can be tied to task assignments, he said.

Bressler cited research from the Standish Group that shows distributed development often results in productivity loss of as much as 35 percent, while duplicated work results in a 45 percent cost overrun and gaps in process lead to a 63 percent time overrun. "Our goal is to integrate development, collaboration and management tools, to give a team everything it needs to communicate and to give managers visibility and control over the project via a central repository with metrics," Bressler said.

Colin Bodell, senior vice president of product development, said in a statement: "The reality of today's software development teams is that they tend to be geographically dispersed, follow different processes and use different tools that typically are not integrated. This leads to significant inefficiencies, cost overruns and delayed projects." ▮

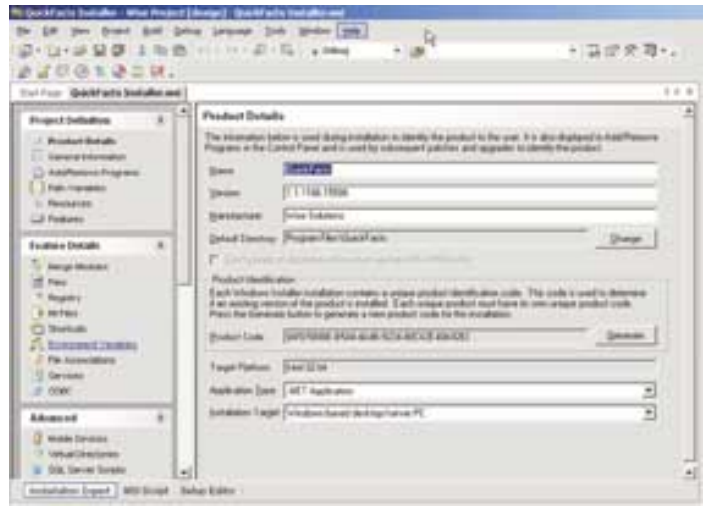
.NET a Wise Choice For Install Tool Vendor

BY YVONNE L. LEE

Wise Solutions Inc. is shipping a version of its installation authoring tool that's more tightly integrated with Microsoft's Visual Studio .NET and can build installation files for Web-based and handheld applications.

Although prior versions of Wise for Visual Studio .NET ran as stand-alone applications, version 5 runs from within VS.NET as a menu item. Wise for Visual Studio .NET generates the installation project automatically. According to the company, the tool removes more than 80 percent of the manual coding required to create installation files, which Wise (www.wise.com) says can take several weeks to make for complex software spanning multiple machines and databases and running on the Web.

Wise for Visual Studio .NET comes in three versions. The US$449 Standard Edition does not have handheld and server development features. The Professional Edition is $1,199, and the Enterprise Edition, which enables concurrent use, is $2,399. All versions are available now. ▮



Version 5 of Wise for Visual Studio .NET operates from within VS.NET.

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22 developers

35 deadlines

26,307 cans of Red Bull

3 programming languages

1 solution

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iTKO Knocks Out Defects From Applications

Automated J2EE testing tool requires no coding, covers development life cycle

BY DAVID RUBINSTEIN

Consultant and training firm Interactive TKO Inc. is climbing into the automated application testing ring with the June 1 launch of Lisa 2.0, the company's first commercial release, for use during the development life cycle.

iTKO's approach is somewhat different from other testing tools companies, said John Michelsen, one of the principals and lead architects, in that no code-writing is required. "If the solution elongates a product delivery, it'll be cut to make the deadline. It can't be the developer" that has to create the tests, he emphasized.

Lisa is an out-of-the-box testing solution for J2EE applications, targeting midtier server-side applications, Michelsen said. It was built on the principles that everyone in the development life cycle has a role in quality; companies cannot lull themselves into thinking they've done testing with a "point" tool, whether it's a unit-testing tool, a tool for regression or load-testing, or even system monitoring. Testing, he averred, must be done at every point in the development cycle.

Many analysts and development shops believe more and more testing needs to be done by the development teams. Michelsen and his team think developers already have enough to do. "We don't take the onus off developers, but put the right onus on them. They can instrument a server app with Lisa's integration API. Developers must build a testable server app, and QA must build good test cases."

Lisa natively understands Enterprise JavaBeans, J2EE-compliant messaging servers, Web services and JDBC sources, so business analysts can test Web services without having to know how to write code, Michelsen said.

"We all know automated testing is a mandate," he continued, "and yet we haven't found a customer yet where he needs to be with automated testing. It's woefully inadequate." Lisa is software that on its own can validate another piece of software without human intervention, Michelsen said, by using programmatic logic to execute business functionality. "It simulates the user and knows what it should get back in return, and fails if the value it gets back is different than what is expected," he said.

Founded in 1994, iTKO (www.itko.com) is selling Lisa in four editions, ranging from US$59 per developer seat for the Web Edition, to $1,995 for the Enterprise Edition that supports JDBC, EJB and Web services and includes the Lisa Integration Library, to $2,899 for the Corporate Edition that adds a 100-user load-testing license and unlimited production application monitoring and alerts. ▮

The Anatomy of a Complete Development Solution

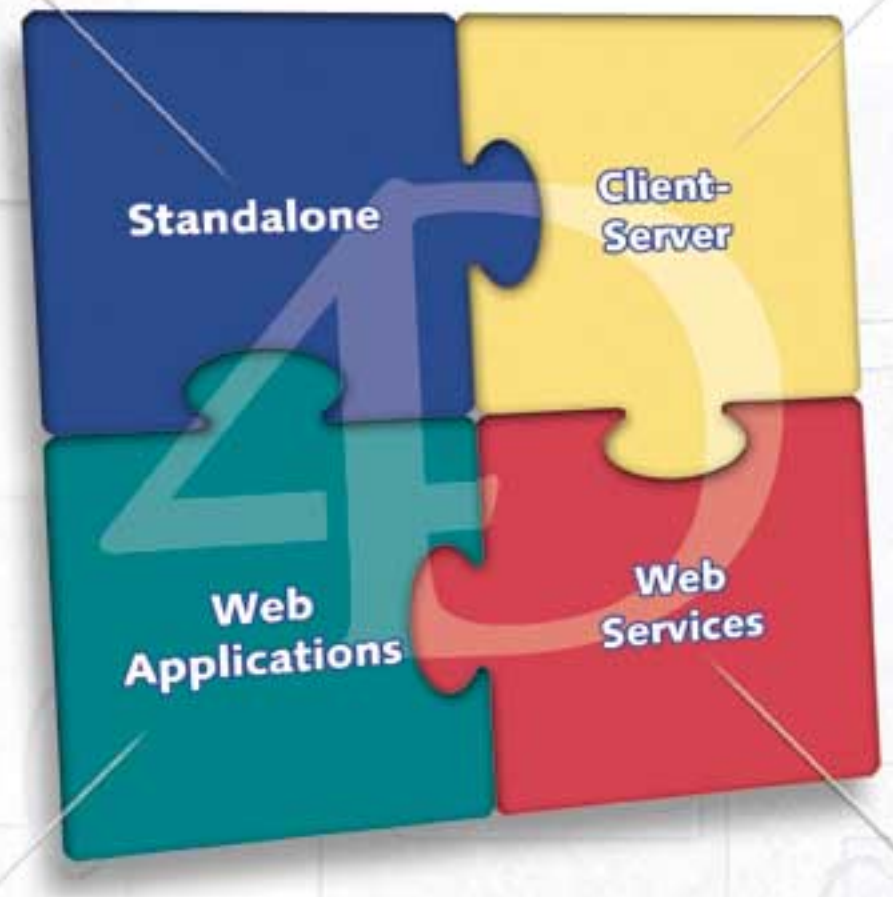
WHEN THE SOLUTION MATTERS

4th Dimension 2003 provides an environment for Rapid Application Development with an integrated database. Standalone applications can quickly and easily be created for both Windows and Macintosh platforms (including Mac OS X).

fig 1: Standalone

With no additional coding, your standalone application can be deployed in a client-server environment. Supporting mixed platform connectivity and automatic application distribution, 4th Dimension 2003 radically increases deployment efficiency.

fig 2: Client-Server



The same application can easily be Web-enabled, with complete scalability – from single-tier to three-tier architectures. With an emphasis on security, 4D technologies are robust enough to run the US Army's Web servers.

Your application can be Web services-enabled with a single click. One-click Web service consumption and publishing with automatic code creation will have you on the fast track to application integration.

fig 5: complete development solution

4th Dimension 2003

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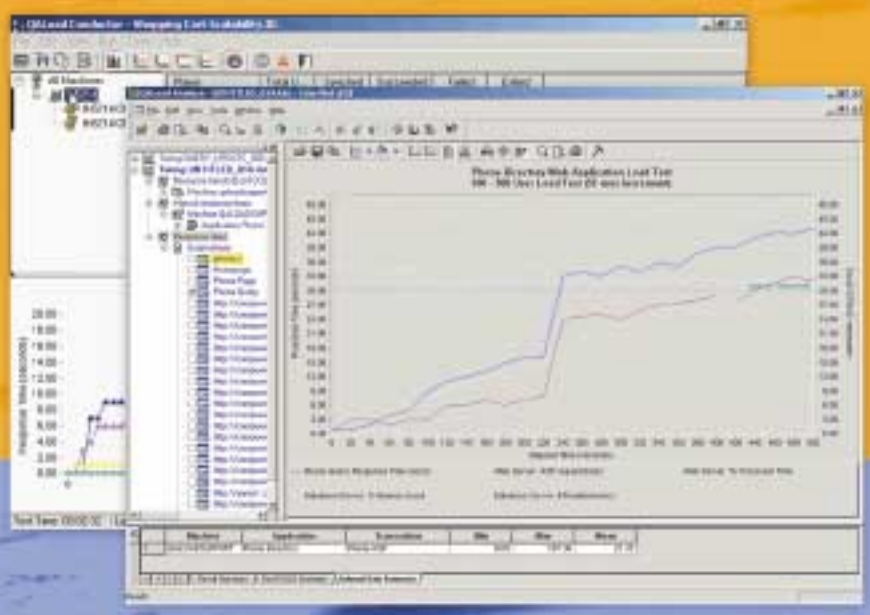

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Innovators And Leaders

There are leaders and innovators. And there are followers. The first annual SD Times 100 recognizes the leaders and innovators of the software development industry.

While many companies provide excellent tools and platforms for enterprise software developers, a few stand above the rest, and not necessarily due to their market share, annual sales or brand recognition. Although many of our industry's largest vendors are included within the SD Times 100, so are small start-ups—all companies that have demonstrated a pattern of innovation during the past year.

The SD Times 100 recipients have built products that not only help developers do their jobs better, but also have had a broader impact on developers. Microsoft, for example, set the agenda with Visual Studio .NET. The Eclipse consortium gained momentum as the de facto standard tools project for the Java community. The ARM processor had a wide impact on embedded platforms and designs, beyond its core developers.

The editors of SD Times identified the industry's top leaders, innovators and influencers, and broke them out into 10 separate industry segments. Some companies lead in one category, others in more than one. In each category, one company has been spotlighted as a star deserving of special notice.

When choosing the SD Times 100, we carefully considered each company's offerings and reputation. We also listened for the "buzz"—how much attention and conversation we've heard around the company and its products and technologies—as a sign of leadership within the industry.

The SD Times 100 looked for companies that have determined a direction that developers followed. Did the company set the industry agenda? Did its products and services advance the software development art? Were its competitors nervously tracking its moves? Were programmers anxiously awaiting its developments? Those qualities mark a leader.

Subjective? Of course. But leadership and innovation can't be measured by stock valuations or analyst reports. The SD Times 100 represents what we believe to be the best of the best of 2002. The envelopes, please...

MODELING

Rational Software Corp.

Leading up to its acquisition by IBM Corp., Rational continued to be the 800-pound gorilla in the modeling space. The new XDE innovated by melding traditional modeling and visual development.

Michael Devlin, CEO

Embarcadero Technologies Inc.
ER/Studio generated buzz for both data and application modeling.

I-Logix Inc.
Rhapsody leads interactive embedded designing and modeling.

Interactive Objects Software GmbH
Innovated on styling OMG's Model Driven Architecture.

Jcorporate Ltd.
Through Expresso, it polishes Apache's Struts MVC framework.

MetaMatrix Inc.
Demonstrated the power of OMG's Meta Object Facility.

Popkin Software Inc.
Takes enterprise modeling and architecture to the highest level.

Select Business Solutions Inc.
Aonix spin-off brings modeling approach to component builders.

Telelogic AB
The Tau of modeling spans enterprise and real-time applications.

TogetherSoft Inc.
Now owned by Borland, Together Control Center gave a perfect mix of code and models.

TOOLS & ENVIRONMENTS

Microsoft Corp.

Bill Gates & Co. took over the 2002 agenda with the release of the .NET platform, and of the revamped Visual Studio .NET and C# language. Through plug-ins and partners, it's the IDE standard.

Bill Gates, Founder and Chief Software Architec

ActiveState Corp.
First professional-quality IDE for script-language developers.

Altova Inc.
XML Spy family emerged as the de facto standard schema editor.

Apache Software Foundation
Ant build tool improves on Make, and won Java developers' hearts.

BEA Systems Inc.
WebLogic Workshop leads drive to visual Web services assembly.

Borland Software Corp.
Leading independent tools vendor is programmer's powerhouse.

Macromedia Inc.
Rich Web dominance and MX family is no "Flash" in the pan.

Migratec Inc.
Struggling firm has innovative solution for 64-bit migration.

Metrowerks
The Motorola subsidiary's CodeWarrior rules every major embedded platform.

PreEmptive Solutions Inc.
Tool for compressing and obfuscating binaries essential for ISVs.

COMPONENTS & LIBRARIES

Trolltech AB

Qt and Qt Embedded have become the libraries of choice for developers who wish to build cross-platform applications in C++. Innovations in scripting and integration set Trolltech apart in 2002.

Haavard Nord, CEO and Co-Founder

ComponentOne LLC
Early .NET leader with GUI component subscriptions for VS.NET.

Dundas Software Ltd.
Charting innovator powers up .NET clients and ASP.NET servers.

ILOG Inc.
Multiplatform innovator in business rules and analysis components.

Infragistics Inc.
Leads with Java and C#-based .NET suites and common object model.

Logic Library Inc.
Logidex emerged as leading component archive for Java and .NET.

Rogue Wave Software Inc.
C++ component mainstay stands out with Bobcat servlet container.

Select Business Solutions Inc.
Component Architect brings rigor to the design of reusable software.

Software FX Inc.
Leading component maker offers key chart extensions for .NET.

Visual Numerics Inc.
IMSL Java libraries showed that math isn't just for Fortran and C++.

COLLABORATION

MKS Inc.

MKS continues to expand into the enterprise with significant upgrades to Source Integrity Enterprise Edition and Integrity Manager, including an innovating federated server architecture.

Philip Deck, CEO

CollabNet Inc.
Brings open-source collaboration tools to enterprise development.

Merant Inc.
PVCS Dimensions is still the change-management solution to beat.

Pragma Systems Corp.
ProcessMax delivers the Capability Maturity Model to the masses.

Rational Software Corp.
Now part of IBM, ClearCase holds mind share for source-configuration management.

Serena Software Inc.
ChangeMan brings unprecedented breadth to change management.

SteelTrace Ltd.
Graphical tools expand requirements management beyond techies.

TeamShare Inc.
Innovates in broad-reaching product life-cycle management tools.

Telelogic Inc.
Automated change management brings Synergy to dev teams.

VA Software Corp.
Links tools and components into complete collaborative environment.

TEST & DEBUG

Compuware Corp.

The premium tool lineup virtually guarantees a spot in every tester's toolkit; from the ubiquitous BoundChecker to the DevPartner family, it's a commanding presence in code testing/debugging.

Peter Karmanos, Chairman and CEO

FMS Inc.
Expanding innovative code analysis tools to cover .NET platform.

Identify Software Ltd.
With AppSight, leader with "flight recorder" approach to testing.

Mercury Interactive Corp.
Consistently delivers enterprise and Web performance management.

Parasoft Corp.
Continues expanding line of full-featured automated test tools.

Quest Software Inc.
Solutions shine in end-to-end *n*-tiered app performance resolution.

Rational Software Corp.
TestStudio and TestTeam, now at IBM, continue to head test-suite category.

Sanctum Inc.
AppScan first in unit-testing .NET code for security weaknesses.

Segue Software Inc.
SilkTest and SilkPilot innovate in functional, regression app testing.

Wily Technology Inc.
Market-leading tools drive distributed enterprise app monitoring.

DEPLOYMENT PLATFORMS

JBoss Group LLC

Despite its inability to garner official J2EE certification from Sun, the JBoss app server captured significant mind share over the past year, and the company has emerged as a top Java contender.

Marc Fleury, President

Apache Software Foundation
The project's Tomcat servlet container is the standard J2EE issue.

Apple Computer Inc.
Finally, Mac OS X is a platform that developers want to target.

BEA Systems Inc.
Market presence and technical excellence keep WebLogic ahead.

IBM Corp.
WebSphere emerged as the one J2EE platform everyone supports.

Mainsoft Corp.
Clearest solution for extending Windows apps to run on Unix.

Microsoft Corp.
The .NET Framework and CLR set everyone's agenda for 2002.

Novell Inc.
Rebranded SilverStream app server remains a top Java runtime.

Oracle Corp.
Platform leader based on fast runtime, 9iDB and 9iAS integration.

Sun Microsystems Inc.
Solaris and J2EE, more than Sun ONE, keep Sun software on top.

INTEGRATION & MIDDLEWARE

BEA Systems Inc.

Having started out as an integration vendor, BEA continues to excel in its area, most recently with its Liquid Data presenting a new approach to the aggregation of disparate information sources.

Alfred S. Chuang, Founder, President and CEO

Actional Corp.
SOAPswitch demonstrated Web services aggregation innovation.

Data Junction Corp.
Integration Studio is at the cutting edge of EAI and Web services.

Fiorano Software Inc.
Tifosi offered a unique and compelling view of visual app integration.

Hit Software Inc.
With Allora, presented a leading system for XML data exchange.

IBM Corp.
Despite its new name, MQSeries stays at the front of the message queue.

Sonic Software Corp.
Created a bandwagon for enterprise service bus-based architecture.

SpiritSoft Ltd.
SpiritWave excels beyond JMS with caching and traffic management.

TIBCO Software Inc.
Major message-bus vendor expanded beyond proprietary specs.

webMethods Inc.
Integration software keeps adapting to evolving platform standards.

EMBEDDED & MOBILE

ARM Ltd.

Not only did the company's processors and cores advance significantly in performance and efficiency, but their innovations had far-reaching implications for other vendors' platforms.

Warren East, CEO

Green Hills Software Inc.
Impressive growth was fueled by Integrity, ThreadX and fast compilers.

Intel Corp.
XScale has become one of the most attractive migration targets.

Microsoft Corp.
PocketPC Phone Edition zoomed Windows' SmartPhone presence.

PalmSource Inc.
32-bit Palm OS 5 for ARM added needed muscle to the handheld.

QNX Software Systems Ltd.
Momentix bundling/rebranding strategy galvanized the industry.

Qualcomm Inc.
BREW finally came of age, thanks to over-the-air provisioning.

Red Hat Inc.
Red Hat Linux led in embedded Linux designs.

Sun Microsystems Inc.
Performance jumped thanks to MIDP 2.0 and the new CLDC JVM.

Wind River Systems Inc.
New products and simplified pricing redefined the RTOS market.

STANDARDS BODIES & CONSORTIA

Eclipse Consortium

Despite its early history and controversial dispute with Sun's NetBeans project, IBM's Eclipse open-source IDE project took a commanding lead, winning incredible third-party acceptance.

John Weigand, Principal Architect

BPEL4WS Consortium
IBM and Microsoft clobbered Sun's WSCI at the orchestration game.

Embedded Linux Consortium
All key vendors collaborate to unify and enhance the platform.

International Organization for Standardization
ISO standards blessing is key for languages such as Microsoft's C#.

Java Community Process
Rules Java, despite the proliferation of closed vendors' "standards."

OASIS
The powerful Organization for the Advancement of Structured Information Standards consortium controls ebXML, UBL, UDDI and now BPEL4WS.

Object Management Group Inc.
Moved slowly on UML 2.0, but ruled with Model Driven Architecture.

UnitedLinux
Alliance of Linux Lilliputians caught the big companies' attention.

W3C
Exerts influence on key specs, such as HTML, SOAP, WSDL and XML.

Web Services Interoperability Organization
Despite nasty politics, WS-I's the best hope for real Web services interop.

DATABASE & DATA ACCESS

MySQL AB

Not only has MySQL become part of the essential troika of open-source software, with Linux and Apache Web, but in 2002 the database gained a strong following among enterprise developers.

Mårten Mickos, CEO

Ascential Software Corp.
Suite of data profiling and transformation tools remains without equal.

Crystal Decisions Inc.
Continues advancing as the de facto standard for database reporting.

DataDirect Technologies Inc.
Innovative JDBC/ODBC connectors address back-end performance.

Embarcadero Technologies Inc.
For data architects, DT/Studio and ER/Studio are the ones to beat.

IBM Corp.
WebSphere Everyplace is a new take on remote data access.

Microsoft Corp.
SQL Server is ubiquitous on Windows–and, now, on Windows CE.

Oracle Corp.
While DB2 and SQL Server gain traction, Oracle remains dominant.

Sybase Inc.
iAnywhere has emerged as a leader in mobile relational databases.

Thought Inc.
Leads O/R mapping by covering nearly every database and app server.

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ARM Ltd.	Cambridge, England	www.arm.com	Embedded
Ascential Software Corp.	Westboro, MA	www.ascential.com	Database
BEA Systems Inc.	San Jose. CA	www.bea.com	Integration, Platforms, Tools
Borland Software Corp.	Scotts Valley, CA	www.borland.com	Tools
BPEL4WS Consortium	n/a	www.ibm.com/webservices	Standards
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Eclipse Consortium	Armonk, NY	www.eclipse.org	Standards
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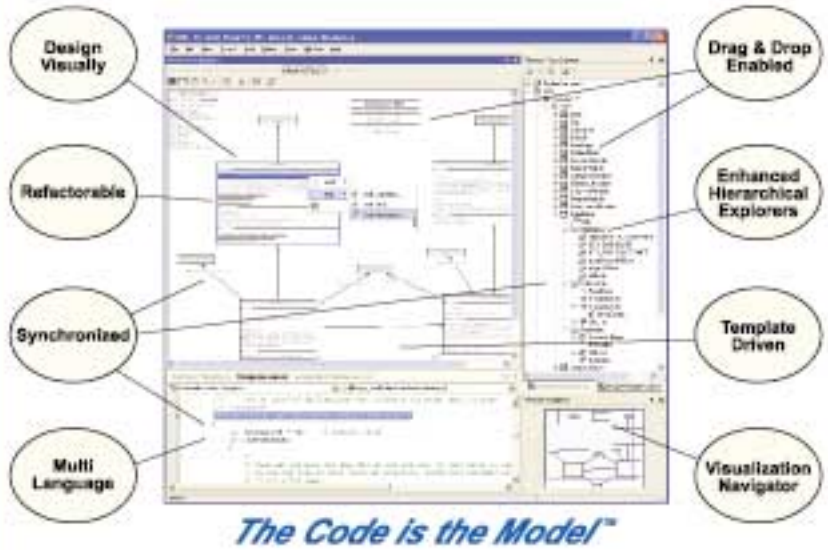

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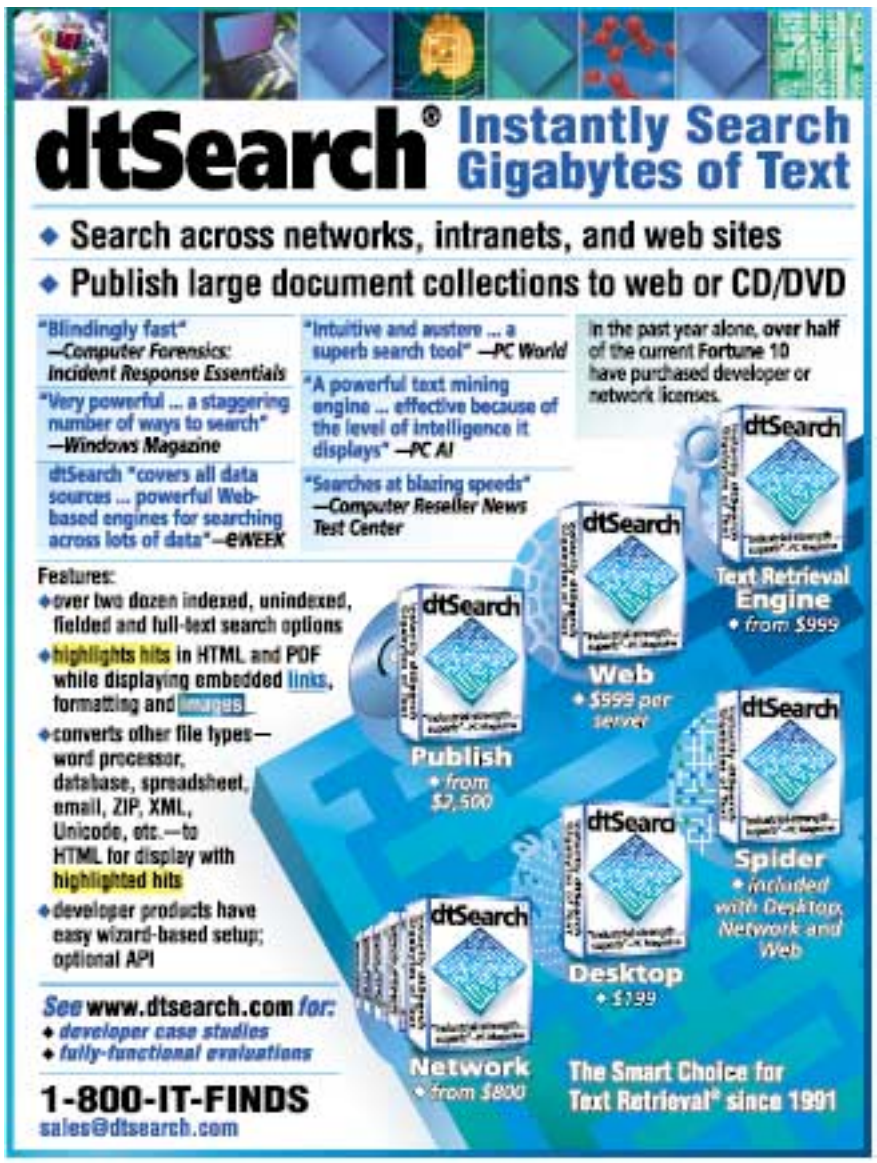

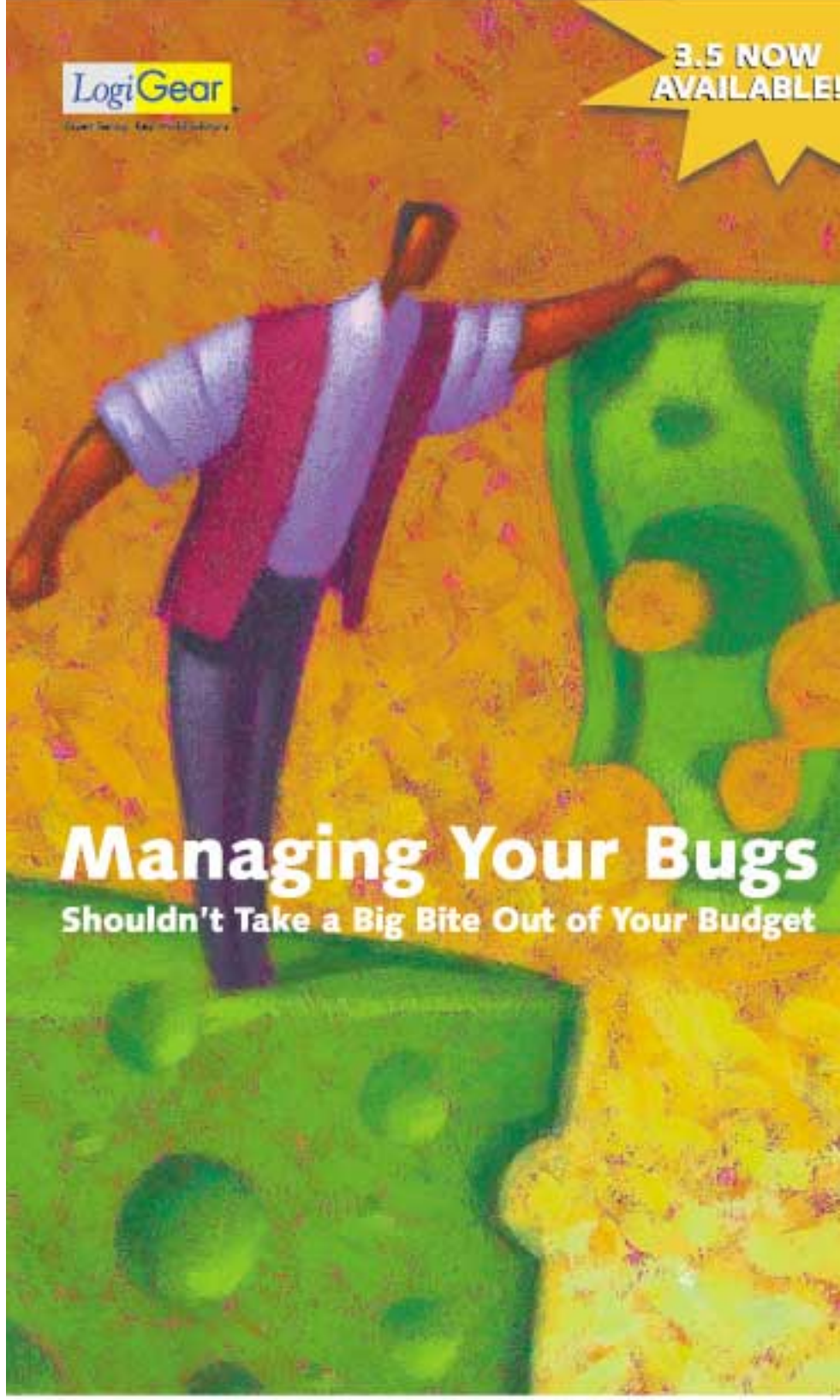

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SCO

◂ continued from page 1

cial businesses hinting that they, too could be held liable for license violations.

In March, SCO sued IBM Corp., claiming that IBM had contributed to Linux elements it licensed from AT&T, the original Unix owner. In April, it issued a statement that it found lines of code that are identical in Linux and Unix.

SCO does not specify what actions it will take against commercial Linux users, however, it does strongly intimate that the Provo, Utah, company plans to vigorously defend what it believes are its rights.

"Similar to…efforts underway in the music industry, we are prepared to take all actions necessary to stop the ongoing violation of our intellectual property or other rights," said the letter from SCO president and CEO Darl McBride.

The new actions, particularly halting sales of Linux, buttress SCO's stance, says analyst Will Zachmann, of Canopus Research in Duxbury, Mass. "That was one of the things that people were critical about, pointing out that [the company's behavior] has some contradictions. They make their position more consistent that way," he said.

In the letter, the company assails the open-source process, saying "much of Linux has been built from contributions by numerous unrelated and unknown software developers, each contributing a small section of code. There is no mechanism inherent in the Linux development process to assure that intellectual property rights, confidentiality or security are protected. The Linux process does not prevent inclusion of code that has been stolen outright, or developed by improper use of proprietary methods and concepts."

SCO does not oppose the idea of open source, says Sontag.

However, the manager of SCOsource, the new division of SCO designed to handle Unix licensing, insisted the company (www.sco.com) is not against open-source software per se.

"I think it's important for people to understand right upfront that SCO does not have an issue with open-source and free software," said Chris Sontag, vice president and general manager of SCOsource. "There are legitimate contributions that have been made to the free-software and open-software movements that we don't have issue with."

Sontag added that he felt the open-source community needed a process whereby it could ensure the integrity of software submitted to projects.

SCO says it will continue to support existing SCO Linux and Caldera OpenLinux customers and will not hold them liable. In the future, the company will focus on Unix and SCOx, the Web services framework it introduced in April. SCO says it plans to introduce new Web services applications from third-party developers in August at SCO Forum.

IBM, the subject of the initial lawsuit, would not comment on the new actions, but said it intends to defend itself. "We take our suit very seriously and are vigorously defending it," said Trink Guarino, IBM's director of communications. "Our commitment to the open community is unequivocal, and we continue to support Linux." ▮

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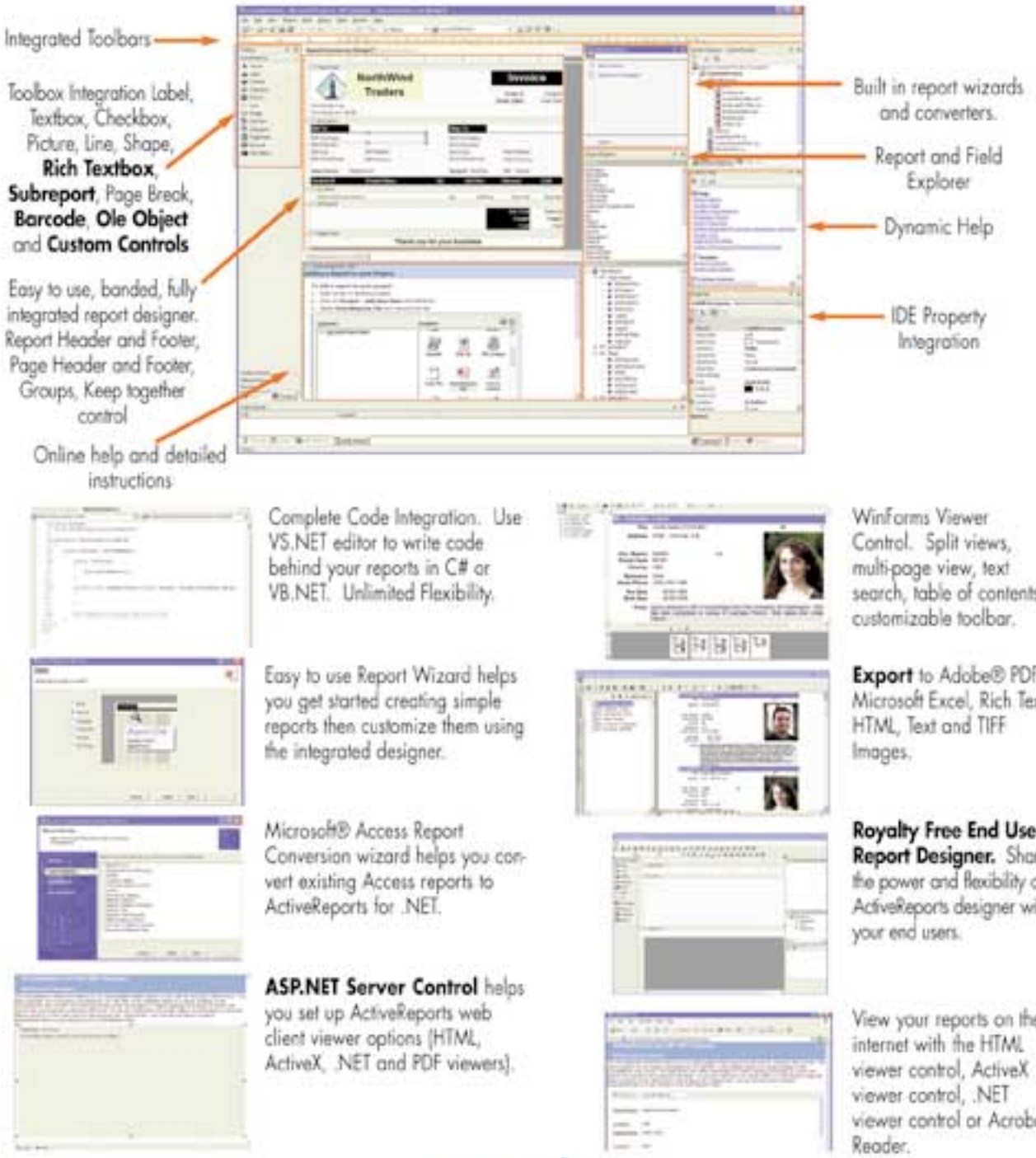

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IBM XDE

◂ continued from page 1

tectural patterns, to allow developers without deep expertise in J2EE to assemble applications from predefined style sheets and templates in a drag-and-drop environment. Java class models can be imported from the models into the application, with reverse-engineering and synchronization functionality.

"The people with J2EE familiarity and knowledge were not the majority of business developers in an organization," Oberg said. "We are bringing a solution to a class of developer we haven't had a great solution for."

Gupta explained that business analysts create business process models in XDE, which are then passed to RAD developers. IBM is targeting PowerBuilder and Visual Basic developers, among others, with the new offering. These developers are focused on business-level functionality, with a software architect fine-tuning how the code is generated out of the models. Only one person on the development team is required to understand how to deploy the app to J2EE platforms, using those predefined *n*-tier construction patterns to set up such things as transactions and database and messaging connectivity, Gupta explained. A feature called TechBlades eases the port of applications to the deployment platforms of choice.

Rapid Developer runs on Windows and Java servers from Apache, BEA, IBM and Oracle, as well as IBM, Microsoft, Oracle and Sybase databases and JMS, MSMQ, TCP/IP and XML messaging formats.

XDE Developer now allows for debugging applications at runtime, using UML Sequence Diagrams created in the XDE Modeler to assess the behavior in production, said Oberg. The product includes the PurifyPlus set of runtime analysis tools.

The environment also allows developers to create metadata that defines assets, which can be managed in ClearCase, based on the Reusable Asset Specification (RAS) that Rational and a few other component developers and resellers are supporting, according to Oberg. There is guidance in RUP, he said, to tell users how to package and deploy assets under the RAS. Oberg said IBM still intends to submit RAS to Object Management Group Inc. for consideration as a standard, but he would not provide a time frame for that.

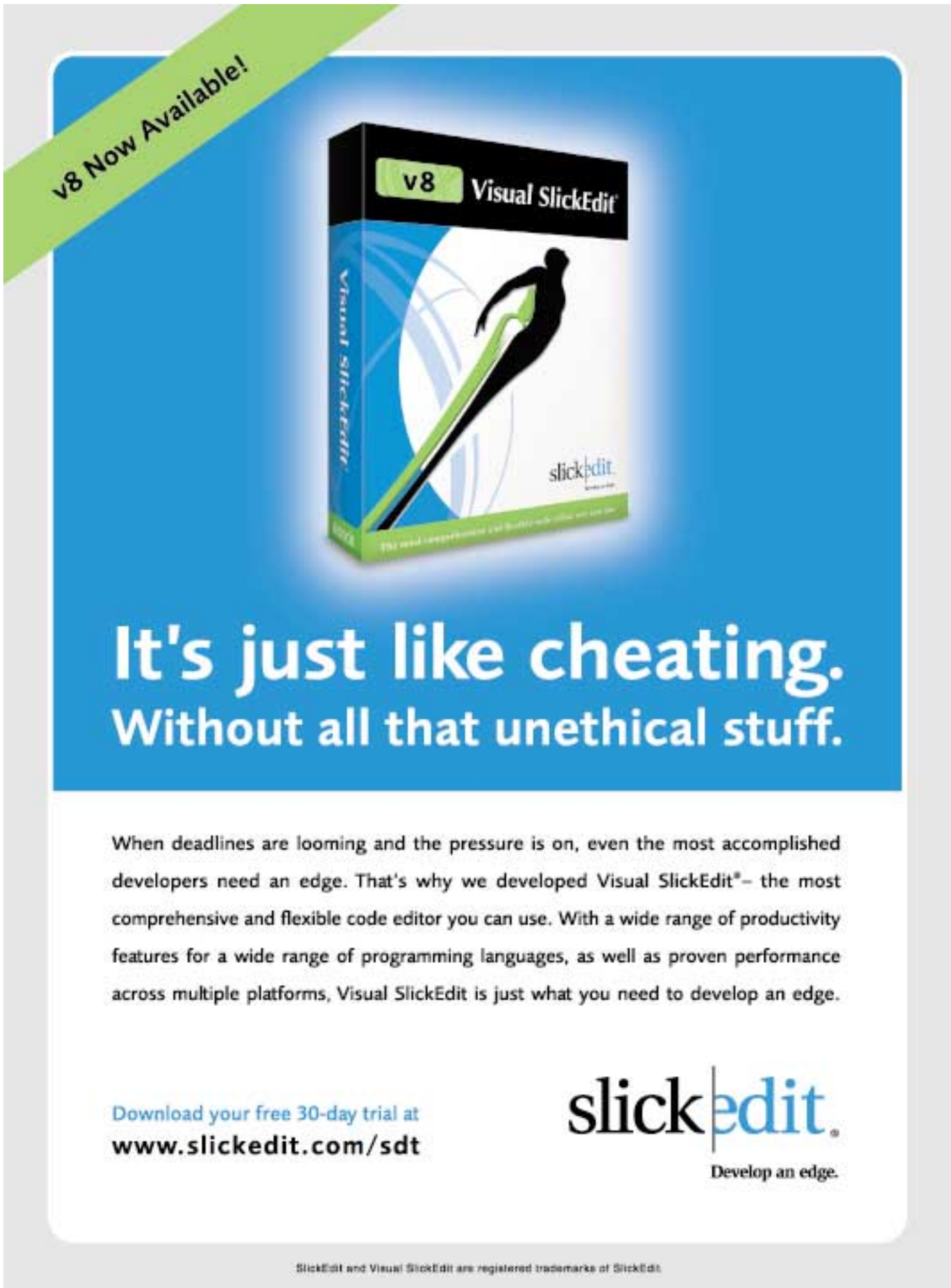
WHITHER ROSE?

At the time of the initial XDE announcement, in February 2002, Rational tried to bring design into the IDE, putting modeling into the hands of developers. XDE, Oberg said, has become IBM's preferred solution for development in Eclipse, WebSphere Studio and Microsoft's Visual Studio .NET, but he was quick to add that the company will continue to support and enhance its Rose modeling tool.

IBM has added the XDE Modeler to the RUP's Process Workbench, allowing project managers to create new workflows with a wizard-based approach, Oberg said. RUP now includes project templates and has process guidance for creating roles within teams, he said.

The new XDE Tester has evolved from the RobotJ technology Rational introduced last year as part of its TestStudio suite, with ScriptAssure functionality that records at the object level so if the visual representation of code changes, the script won't break, Oberg claimed.

Rapid Developer costs US$5,995 per user license; XDE Tester and XDE Developer each cost $2,995 per user license. ▮



ComponentOne Bundles With C# Builder

Includes development, deployment licenses for WinForms, WebForms

BY ALAN ZEICHICK

ComponentOne LLC is the first vendor to offer components for Borland Software Corp.'s forthcoming C# Builder IDE.

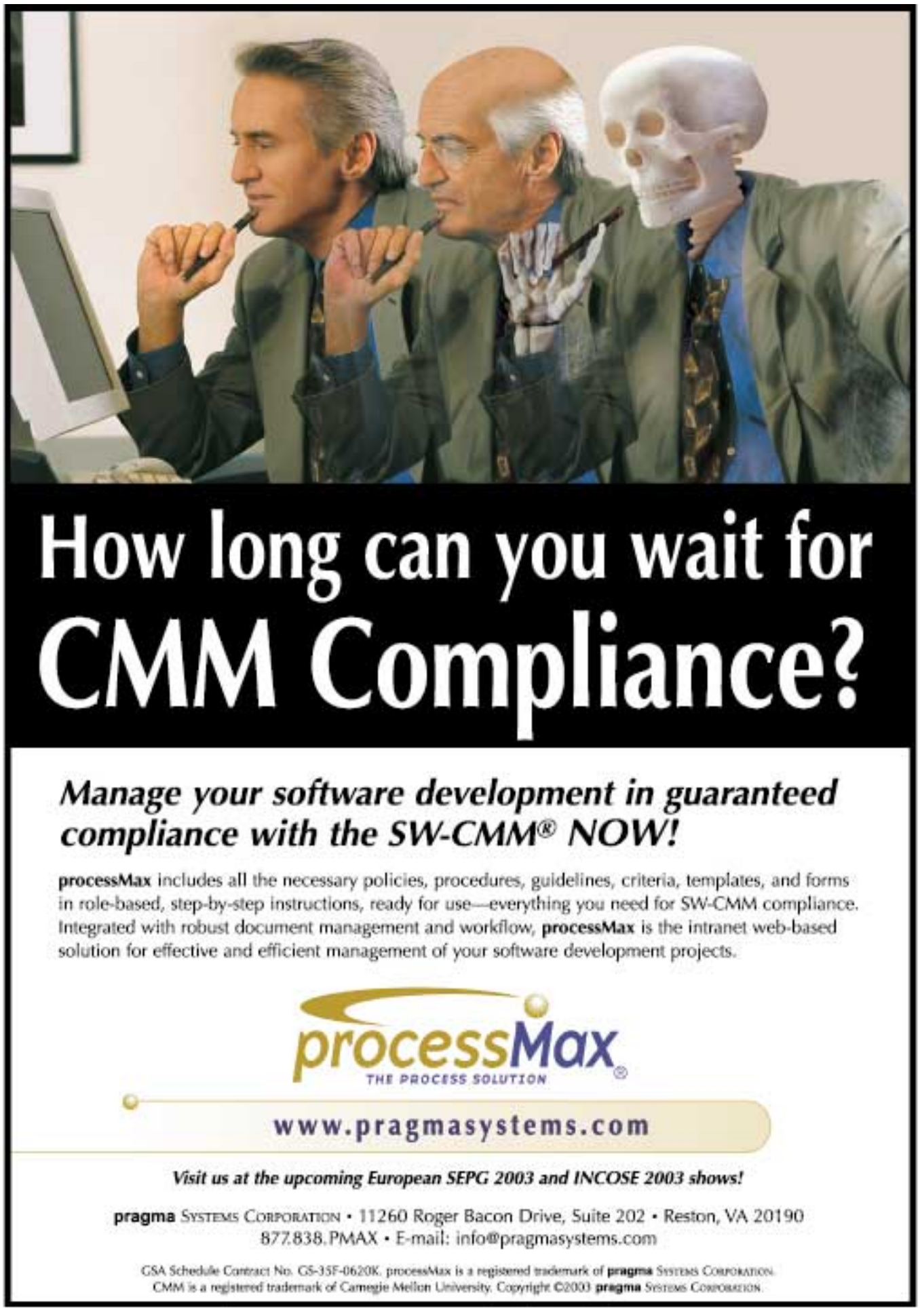
According to Gustavo Eydelsteyn, managing director of ComponentOne, Borland will be bundling a special edition of Studio Enterprise, which includes both development and deployment licenses for .NET WinForms and ASP.NET WebForms user-interface components. "All of our [.NET] components will be in the box; it's a full-featured version," he said.

Studio Enterprise is a US$899 subscription-based offering that is updated quarterly; the Q1 2003 version will be included with C# Builder, according to Eydelsteyn.

As part of the bundle, ComponentOne also will be sending offers to Borland's customers, inviting them to download the ActiveX versions of the Studio Enterprise Suite, Eydelsteyn said. "They will also get one quarter [Q2 2003] for free," he added, and will be given a copy of ComponentOne's Doc-to-Help 6.5 help authoring system.

After that, Borland customers will be offered the opportunity to subscribe to receive future versions of the Studio Enterprise component suite. "Our business is the upgrades," Eydelsteyn said.

The Q2 2003 update to Studio Enterprise shipped in mid-May. The new release was designed for compatibility with VS.NET 2003, according to the company (www.componentone.com), and had several updates to grid, reporting and menu controls. The update also included a new control, C1Outbar, which provides a tabbed container similar to those in Microsoft's Outlook e-mail client. ▮



J2SE 1.5

◂ continued from page 1

JSRs would become a standard part of the Java release.

RAS features include more precise error messages and new debugging tools.

The JVM will have a smaller memory footprint, which means it will start more quickly, according to Shipe.

Early drafts of the J2SE 1.5 proposal are available from the Java Community Process Web site (www.jcp.org/en/jsr/detail?id=201). The Java Community Process is a multivendor consortium that controls changes to the Java specifications.

The J2SE release will precede the release of J2EE 1.4 by about six months, said Shipe.

Also at the JavaOne show, Sun will introduce a new Windows XP interface that can be applied to Java applications, and show Sun ONE Studio 5.

Studio 5 will target J2SE 1.4.2 and J2EE 1.3, but it offers better performance and will now support the Java API for XML-Based RPC (JAX-RPC), a required feature in J2EE 1.4, claimed Jeff Anders, group marketing manager for Sun ONE tools. ▮

ehelp Puts Some Flash Into RoboHelp

Update adds new rich-client presentation format to new X4 authoring tool

BY ALAN ZEICHICK

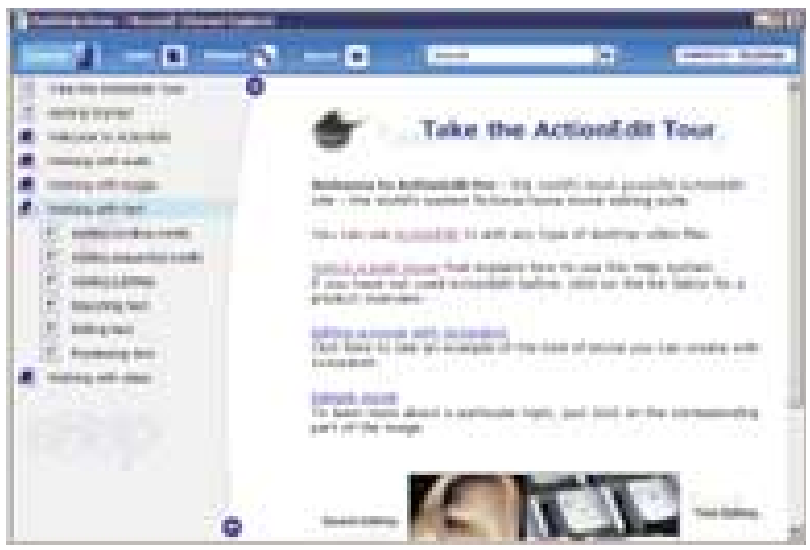
eHelp Corp. is updating its well-known line of help authoring tools with RoboHelp X4, which adds a new Flash-based help delivery format that can be used by desktop and cross-platform Web applications.

Why use Macromedia's Flash as a target? According to Mike Hamilton, product manager for RoboHelp, it's because Web-based applications are growing too complex for traditional HTML-based FAQ-style documentation being displayed in browser windows; Flash allows richer documentation to be downloaded and used on the client's desktop on a variety of platforms.

"It's similar to the evolution on DOS," he said. "In the early days, applications were fairly straightforward, and a readme file was enough. But as DOS gave way to Windows, and applications became an order of magnitude more complex, the readme file didn't cut it any more.

"We're seeing the same evolution on the Web," Hamilton continued. "A FAQ page handled an application written in JavaScript, but just isn't cutting it for a rich, robust .NET or J2EE application anymore. The need for documentation isn't diminishing, it's growing."

The new format, which eHelp (www.ehelp.com) calls FlashHelp, uses an XML-based data stream to provision the help data, according to Hamilton. "There's a presentation layer, a navigation layer and a content layer," he said. "We're using Flash exclusively for the presentation layer because it's bandwidth-efficient and gives a robust user experience. Plus, Flash uses a core player that's consistent on every platform and on every browser."



RoboHelp X4 generates FlashHelp files that can run stand-alone or within a browser.

The navigation information and content are pushed out to the Flash player using XML, he said. "An online help system could easily be hundreds or thousands of pages—and hundreds of thousands of links. It makes sense to do that via XML. Flash 6 opens up a conduit between an underlying XML data structure and a Flash presentation layer."

With FlashHelp, the help content itself remains in HTML and CSS, he said, and can be authored by Microsoft's Word, RoboHelp's built-in editor, or external HTML editors such as Dreamweaver and FrontPage.

The new RoboHelp X4, which was due to be released May 27, still can target traditional RoboHelp formats, including HTML Help, JavaHelp, WinHelp and printed documentation, Hamilton said. However, there's a caveat, he said: "When you get [RoboHelp] X4, you'll be able to generate FlashHelp; from an R&D perspective, we consider it done and in the can. But we're going to technically call this a 'FlashHelp preview.' We're going to hedge our bets and let tens of thousands of customers bang on this for a month. If we need to resolve anything, we will; then everyone will get the final version via auto-update."

Pricing for RoboHelp X4 varies depending on the version, ranging from US$379 for a version that uses Word as the help editor, to $1,999 for a release compatible with .NET servers. ■

LEVERAGING TECHNOLOGY

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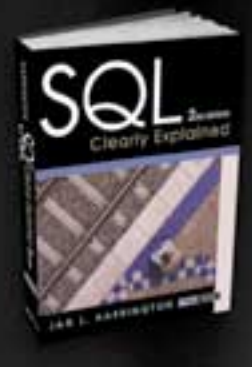

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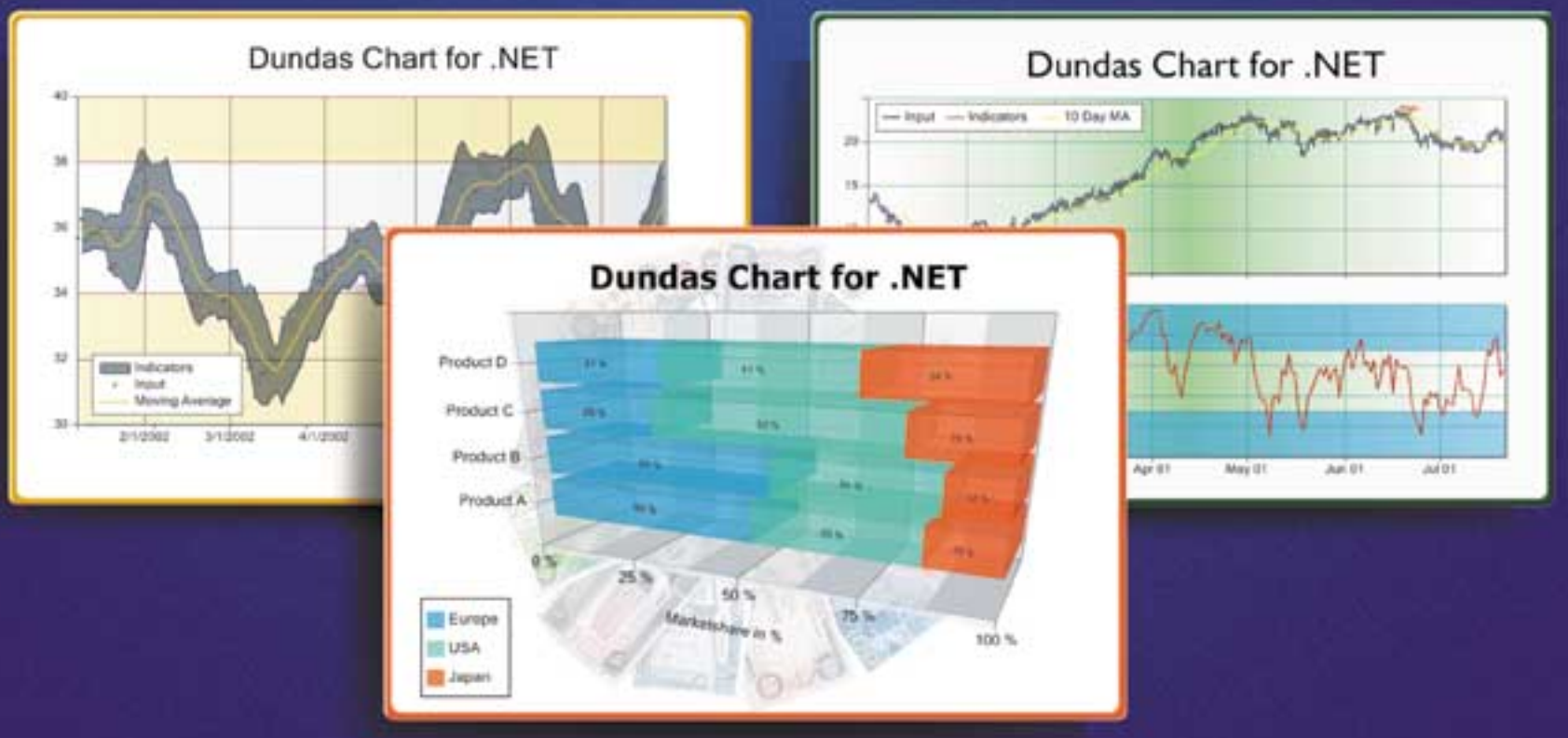

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LabView 7 Targets Palm OS, Pocket PC, FPGA Devices

National Instruments broadens applicability of measurement environment

BY EDWARD J. CORREIA

SAN FRANCISCO — In a hotel suite far from the noisy exhibit floor of the Embedded Systems Conference held here in April, National Instruments Corp. was quietly demonstrating LabView 7 Express, the latest version of its visual tool for developing measurement and monitoring applications. The new version produces far less complicated data-flow diagrams than previous versions, is much less complicated to use, and now can target FPGA-based devices as well as those running Palm OS and Pocket PC.

In LabView, developers build so-called virtual instruments, which are graphical objects analogous to C functions that connect with physical interfaces to sensors and probes. In version 7, the company (www.ni.com) takes the concept a step further by combining many VIs into a single object.

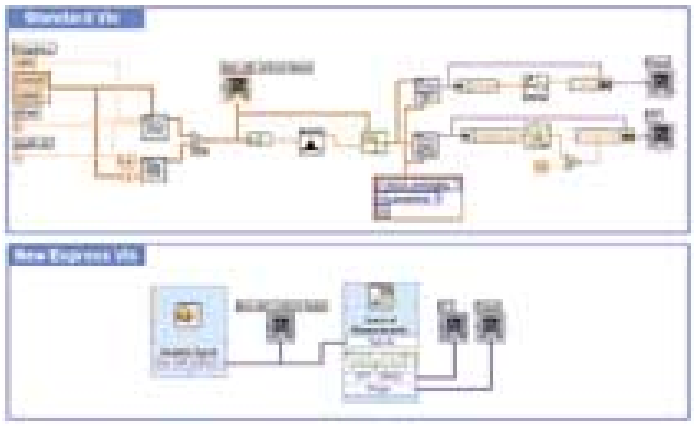
LabView abstracts the complexities of building lab apps, says National's Almgren.

Controlling the demo were Ray Almgren, National's vice president of product marketing and academic relations, and Gricha Raether, LabView product manager. They invoked a new wizardlike interface that presents two blank forms on the screen: a user interface analogous to the front panel of a measuring device, and a block diagram form equating to a device's circuits, where its logic resides.

Icons representing inputs and outputs are dropped onto the block diagram, connected with wires and set with property preferences. After a few minutes, the device is complete. "Writing this in C would take about a week," claimed Almgren. Raether asserted that aside from the obvious benefit of shortened development time, the simplified interface potentially could be used by a much broader group than scientists and lab technicians. "There's a whole new class of engineers that can use it without knowing the intricacies of LabView."

Almgren said that the challenges associated with real-time measurement and monitoring of multi-I/O systems go beyond those of conventional software development, and sometimes include new technologies for which no measurement equipment is available. "LabView allows you to build a fuel cell tester when none existed before because the science is still developing. We abstract the complexities away so engineers can do the measurements they need to do."

Raether said LabView 7 also now includes a simplified and enhanced interface for searching through the thousands of included example instruments. "Now you can search not only for specific data connection types, such as analog, but you can narrow the search to specific types of analog inputs," he said.



The same application is displayed in an older version of LabView (top) and in LabView 7 Express.

Almgren then demonstrated LabView 7's simplified method of interfacing with external instruments—a job that he characterized as a nasty business for developers. "Eighty percent of their code is just for parsing through the thousands of lines of ASCII strings coming from the device and making sense of it all," he said, as he invoked another wizard to create an interface to a piece of external hardware. "If you've ever written an instrument interface, this is like pure magic," he proclaimed. The interface was completed in just a few minutes.

TARGETING MOBILITY

Targeting applications for factory-floor monitoring, automotive diagnostics and repair, and even for detecting dangerous chemicals in homeland security applications, according to Almgren, LabView 7 apps will now be able to run on handheld computers running Pocket PC 2002 and Palm OS 3.5 or higher, with the added benefit of an established deployment and maintenance method. "You can easily modify whatever your field engineers are using to monitor or measure. Just perform [a synchronization function] and a new app is there."

As for FPGA targeting, Almgren said this will be most useful for high-performance applications, such as in automotive control, for which a PC processor is inadequate. "If you need to simulate a car engine [for example], you must represent crankshaft angle relative to spark plug firing, while also simulating all its internal pressures. You need incredibly fast deterministic response times, as in an FPGA."

LabView 7 Express was scheduled for release on May 20 for Linux, Mac OS, Solaris and Windows development hosts; pricing starts at US$995. Available separately at $1,995 each are FPGA, PDA, Real-time and Datalogging/Supervisory Control modules. ▮

VIRTIO EMULATES TI'S OMAP INNOVATOR HARDWARE KIT

BY EDWARD J. CORREIA

Why buy hardware when you can emulate? Device developers considering Texas Instrument Corp.'s Innovator Development Kit for the OMAP platform now have a software alternative.

Virtio Corp. (www.virtio.com) has added TI's OMAP 1510-based development system to its list of embedded hardware emulation environments, called virtual platforms. Other Virtio emulators include those for ARM, MIPS and XScale for running Linux, Symbian OS or Windows CE. Several others target vertical applications such as automotive control.

Dubbed the VPOM-1510 Virtual Platform, Virtio's emulators work with a developer's own toolchain. But unlike processor emulators, virtual platforms replicate all functions of a development kit, including peripheral I/O, display, middleware, operating system and user interface functions. The kits are intended to aid in the development of handheld devices and wireless computing applications.

The software reportedly provides developers with visibility into the virtual hardware to set breakpoints, step through code and observe hardware signals. All hardware settings available to users of TI's Innovator kit are available, according to the company.

Now in beta, the VPOM-1510 will be priced at US$1,990, with general availability set for sometime this month. ▮

PalmSource Builds Enterprise Muscle

BY EDWARD J. CORREIA

Building on the might of its 32-bit Palm OS 5 and ARM-based devices running it, Palm Inc. and its software subsidiary PalmSource Inc. have been shoring up alliances and forging new ones to boost their strength in the enterprise. At the annual PalmSource Developer Conference, a number of new tools and initiatives were brought to light.

For those building native applications for ARM-based devices running Palm OS 5.0, PalmSource has released the Fast ARM Solutions Toolkit. FAST centers around Palm OS Debugger (POD) 2.0, the latest version of the company's debug tool that it says has been optimized for performance-sensitive code, such as for multimedia, security, voice-over-IP and scientific and digital signal processing applications. The tool also reportedly permits developers to add native code to their applications designed for the 68K processor, to use global variables in ARM components, and to access ARM system resources greater than 64KB, and includes more predeveloped code than previous versions. The free tool is available now at www.palmos.com /dev/tools.

Motorola Inc. software subsidiary Metrowerks has released CodeWarrior Development Studio for Palm OS 9.2, a version of its integrated development environment that works with FAST and can target ARM-based machines running Palm OS 5, including Palm's Tungsten T, Sony's Clie and Handspring Treo 300. The US$399 IDE reportedly includes an updated linker that permits on-device debugging when used with the new POD and a Tungsten T simulator.

Users of Research In Motion's Blackberry devices for remote e-mail may no longer be locked into RIM hardware, thanks to an agreement between the company and Palm. The two are developing a solution to enable messages destined for Blackberry devices to be received on Palm OS-based machines through RIM's Blackberry Connect licensing program. RIM software can connect mobile devices with corporate backend servers running Microsoft's Exchange and IBM's Lotus Domino groupware applications. A time frame for availability was not disclosed. ▮

IBM Enables Web Services on Palm, Symbian, J2ME

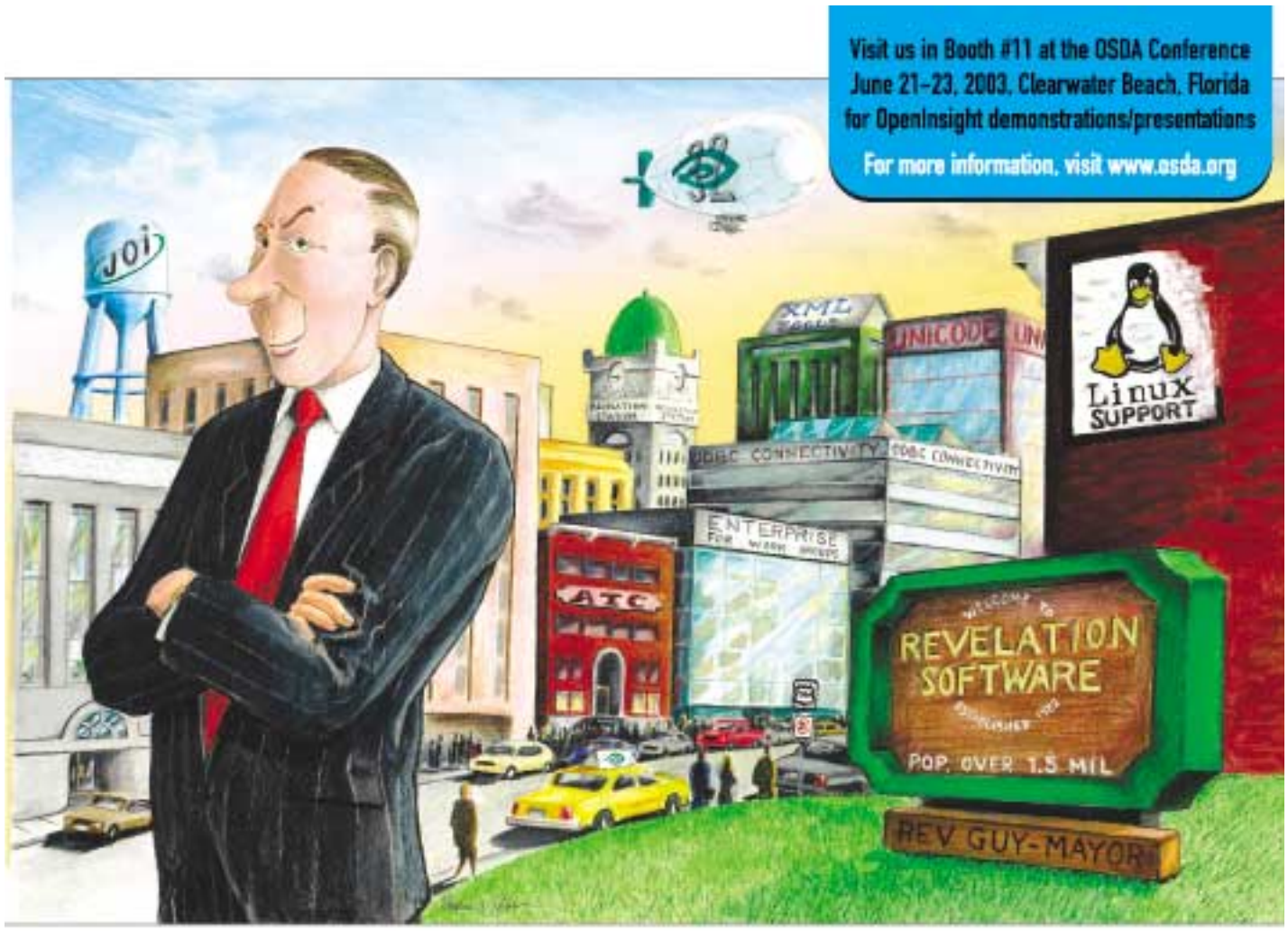
BY EDWARD J. CORREIA

Despite a commitment to enable Web services on Palm devices nearly two years ago, Palm Inc., prolific in other areas, has yet to add Web services to its operating systems. IBM Corp. meanwhile, in mid-May released version 2.0 of its Web Services Tool Kit for Mobile Devices, which reportedly enables Web services not only on devices running Palm OS 5 and 3.5, but also on handhelds running Microsoft's Pocket PC, RIM's Blackberry and Symbian OS 6.0 and 6.1.

"Device manufacturers have been trying to figure out a value proposition for years," said Rod Smith, vice president of emerging technologies at IBM's Software Group. "Unless you've just got a calendar or something, connecting to the enterprise has been hard."

The latest version of the Web Services Tool Kit includes C-based native Web services clients for Palm OS 5 and Symbian; the other clients are written for J2ME. The tools also include an implementation of JSR-172 version 0.7, the spec defining how to use Web services under J2ME, which Smith said is close enough to the final version to be useful. "Internally [JSR-] 172 is up to version 0.9, [but] you can start using this implementation and testing whether you think it will meet your requirements or to give feedback on the spec." He said the spec should be in the final-approval stage this summer.

Available now, Web Services Tool Kit 2.0 can be used with CodeWarrior for Palm OS; the GNU PRC-Tools, an open-source toolchain for Palm OS; and Symbian OS 6.0 and 6.1 SDKs; and can plug into IBM's Web Services Device Developer toolkit. The free tools can be downloaded at IBM's alphaWorks Web site (http://alphaworks.ibm.com/tech/wstkmd). ■



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Altium Sings A BoC Tune

BY EDWARD J. CORREIA

Sydney, Australia-based Altium Ltd. in late April introduced Board-on-Chip (BoC), a technology it says permits engineers to design and implement complete digital embedded systems, including microprocessor core, system peripherals and embedded software, and execute that logic straight onto an FPGA from a Windows workstation. Intended to leverage emerging low-cost FPGA circuits, which it says will cost as little as US$20 each by the end of this year, the designs can be tested, changed and reimplemented as needed.

The solution will combine existing tools, including Altium's nVisage design capture tool, Tasking software development tools, and Viper multicore compiler and debugger, all under the umbrella of its Design Explorer integration framework.

Also reportedly included will be presynthesized schematic-based cores and components, primitives and macro libraries for Xilinx and Altera FPGAs and a reconfigurable FPGA-based development board.

Board-on-Chip was first demonstrated at the Programmable World conference in Santa Clara in early May; the company (www.altium.com) would not disclose pricing or a date for general availability. ■

WINDOWS CE CORE

◂ continued from page 1

According to Debby Fry Wilson, director of the Embedded and Appliance Platforms Group at Microsoft, the Core version includes just enough functionality to target low-cost, high-volume commercial and consumer devices, such as gateways, set-top boxes, industrial automation, cable and DSL modems and low-end VoIP devices. "Our customers wanted more flexibility. They don't always need all the features [of Windows CE] in every device."

The Core version includes the Windows CE kernel and file system, networking, firewall, UPnP, Bluetooth, Windows Media codecs and version 1.0 of the .NET Compact Framework runtime. Microsoft still will offer the full-featured version of Windows CE .NET 4.2, now called the Professional edition, for a starting price of around $15, she said.

Chris Lanfear, practice director for embedded systems software at research firm Venture Development Corp., said the move was a survival tactic for Microsoft to compete in a market consisting of devices with little or no graphical user interface.

"This takes them into an entirely new market of low-cost headless [devices] that don't need the whole GUI or Internet Explorer," which he said also includes DVD players and personal video recorders. "It's not possible to have a $200 device with a $15 or $10 operating system on it. Now when you get into high quantities, you get a low enough price to make sense."

According to Lanfear, with its more open source-code policy and lower prices, Microsoft is starting to look more like some of its competitors. "They're cherry-picking some of the good ideas of open source. This is a strategy shift taking them into a new class of devices that they previously had not been able to compete in. Now they have stripped out the technology that's not required, and that enables them to be appropriately priced, and brings them in line with Wind River and other RTOS vendors."

But Microsoft's Fry Wilson, who insisted that the move is more about customers, also points to a number of industry trends that caused the shift. "One is the tremendous growth in 32-bit processors in the market, another is the growth of embedded devices and that even low-end devices are getting richer. So for us, it makes sense to offer this Core SKU."

Beginning with version 4.2, Microsoft also will relax its definition of noncommercial developers—those qualified to distribute their operating system images for free—beyond academia and hobbyists to include any organization, with one important caveat. "Our definition of noncommercial is when there's no monetary compensation for a device image or for any product that the device image becomes a part of. The purposes we're thinking of are situations like building a prototype device, demo unit or seed unit."

Fry Wilson added that while most enterprise development does not technically involve monetary compensation, building a device for use within an enterprise would not constitute noncommercial development.

"While you wouldn't be receiving revenue from that device, conceivably you would be getting some sort of economic or business benefit from having built the device within your organization."

Windows CE .NET 4.2 Core was to be available for download on June 1 at www.microsoft.com/windows/Embedded/ce.net. ■

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EDITORIALS

Leadership and Innovation

Software development is a mature profession. The first programmer is generally considered to be Lady Ada Augusta Lovelace (1815-1852), and much of the theoretical underpinnings of today's computer systems evolved in the 1940s and 1950s. Yet the pace of change continues to accelerate. In today's software development community, there's plenty of room for innovation. Big companies, small companies, standards bodies, open-source projects all continue to advance the art, continuously setting a new direction and agenda for enterprise developers.

The SD Times 100, presented here for the first time, is our attempt to identify those tool and platform vendors that consistently offer an innovative approach to enterprise software development, as well as those that are in a strong leadership role in their competitive space. Those two attributes are not the same, of course, as innovation doesn't necessarily lead to market success, and often the biggest companies are the most firmly entrenched in the status quo.

Yet both leaders and innovators have something in common: Everyone is watching to see what they'll do next. Enterprise development managers look to them to set expectations for the next wave of computing, competitors regard them nervously, investors open their checkbooks, and other vendors wish to partner with them—or acquire them, as we saw often in 2002.

The era of Lady Lovelace may be over. But the legacy of computing innovation that she inspired is still very much with us.

What do you think of the first SD Times 100? Tell us at feedback@bzmedia.com.

Taming the 'Tiger'

Although the enterprise edition of Java gains the lion's share of attention among enterprise developers (and here at SD Times), J2SE remains the platform's conceptual core, containing the definitions of the Java programming language itself, and of the fundamental virtual-machine environment.

Sun and the Java Community Process are widely expected to formally unveil the next version of J2SE at Sun's JavaOne conference this month. Under development since April 2002, J2SE 1.5, referred to as "Tiger," adds generics to the language—a much-requested feature. The release also may include more manageability and XML functionality than J2SE 1.4.

It's hard to know exactly what will be there; for such an open process, much of the work on J2SE 1.5 has been done behind closed doors. But if all goes according to plan, J2SE 1.5 should be completed by year's end, and its changes rolled into a subsequent version of J2EE.

The updates of J2SE and J2EE (and to some extent, J2ME, the micro edition for handheld and wireless devices) can't come soon enough.

In order for Java to remain relevant—and to compete effectively against .NET—Sun and the JCP must demonstrate that the platform is nimble and responsive to industry and developer needs. The JCP dragged its heels over Web services; increasingly, members of its Executive Committee are taking initiatives to groups like OASIS, or to their own ad hoc consortia. That's not good for Java—or for innovation. ▮

GUEST VIEW

BEYOND MICROSOFT VERSUS SYMBIAN

Back in 1998, it all seemed so simple. Mobile handset technology was about to explode, so to pre-empt any interoperability problems, the industry needed a standardized operating system for the new breed of "smart phones." This would allow developers to write compelling applications for a wide range of devices. There was a brief but exciting tussle between Microsoft and Psion over who would contribute the core technology. Psion's EPOC won, and Symbian—an operating system controlled by a consortium of device manufacturers—was born. End of story?

Unfortunately not. The saga continued, as Microsoft went on to build its own smart-phone operating system in the face of massive opposition from the Symbian-aligned vendors, foremost amongst them Nokia. The chronicle of Microsoft versus Symbian has continued to fuel column inches for the past five years, mostly along the predictable lines of "closed, proprietary" Microsoft and "open, standards-based" Symbian.

The real story: not just two contenders, but hundreds. If you only read the headlines, you could be forgiven for thinking that we're still pretty close to that original vision of a single, industry standard platform for mobile devices. There are just two contenders, and Microsoft will probably go away soon. But this misses the point entirely. In fact, the opposite is happening: Mobile device platforms are proliferating, and a single platform standard is nowhere in sight.

The fact that Motorola now plans to base most of its devices on Linux got little attention, despite the fact that Motorola has a founding 19 percent shareholding in Symbian. Motorola even went so far as to say that "the OS is not particularly strategic—the end user doesn't care what OS his phone uses."

Still, what is actually happening in the market tends to back up Motorola's story. The company plans to rely exclusively on J2ME (or wireless Java) as the mainstream development platform for its devices—not Linux the operating system, but J2ME the platform.

J2ME is now widely supported by device vendors, thus providing a standard for mobile application development that is applicable across a broad spread of devices. Symbian also supports J2ME, using it to provide a managed environment with standardized APIs to sit on top of the Symbian kernel. So in other words, the J2ME platform is now fulfilling a key function for which Symbian was originally created.

JESSICA FIGUERAS

This doesn't mean that J2ME necessarily competes with Symbian, but it does signal the death of the single, wholly standardized operating system that provides everything. Symbian no longer controls the upper layers of the platform. Not only does J2ME play a part here, but now we also see different user interface layers being created—Nokia's Series 60 and Series 80, plus UIQ (a Symbian spin-off, deployed in Sony Ericsson's P800 device). These UIs add yet more layers of APIs to the platform, and represent yet more code branching for developers.

However, J2ME itself is not even properly standardized. Almost all vendors have added their own extensions to bridge its shortcomings, meaning that the J2ME developer is in reality targeting tens of discrete platforms.

Fragmentation will lead to a natural selection of device platforms. What we have now doesn't look much like a standard, and definitely nothing like a standard operating system. It is more like an over-fussy cake, with layer upon layer of APIs from different players stacked on top of one another, all competing for the attentions of the developer.

Motorola was right to say that end users don't care about the operating system, but it ignored the fact that developers do care.

The large community of small developers that the wireless industry is relying on mainly won't have the scale to do large amounts of cross-platform work. Most will select a couple of platforms to work with, making their decision on the basis of which offers the largest addressable market, best features, highest performance and easiest development model.

The battle of the platforms will really be fought and won on the basis of applications. ▮

Jessica Figueras is a senior analyst at research firm Ovum Ltd.

LETTERS TO THE EDITOR

QT SCRIPTING NOT NEW

Regarding Qt scripting in Andrew Binstock's column ["Scripting Easy Program Integration," May 15, page 33, or at www.sdtimes.com/cols/middlewatch_078.htm]. It's not a bad idea, but this has been done before using ini files and .program/setting/* config files. Could user-based editing not really affect security?

Garry Taylor
United Kingdom

NOT THE FIRST

This article lays claim that ClientSoft is the first to offer a way for mainframes to directly consume Web services ["ClientSoft Feeds Web Services to Mainframes," April 15, page 3, or at www.sdtimes.com/news/076/story5.htm].

Our company has had technology available since April of last year that delivered Web services capabilities, and XML transformation for mainframe systems. Our software runs directly on the mainframe, does not require any third tier, and delivers full support for any online application, whether CICS or not.

Eric Vaughan
CEO
Illustro Systems International LLC

START AT PIM LEVEL

As Cris Kobryn said in your article ["Three of Four Parts of UML 2.0 Approved," April 15, page 10, or at www.sdtimes.com/news/076/story16.htm], we can hardly put rules in a blender and hope for ice cream. However, the OMG recently circumnavigated a similar lan-

A BAYESIAN BELIEVER

WINDOWS & .NET WATCH

LARRY O'BRIEN

The hottest person in computing nowadays is an 18th century theologian and mathematician. Thomas Bayes' claim to fame is "P(H/E, C) = P(H/C) P(E/H, C) / P(E/C)," which is a terse way of saying that "it's doubtful that the offer you received via e-mail, soliciting your help to smuggle millions of dollars out of Nigeria, is legitimate."

Yes, Bayesian belief networks (BBNs) can actually rid your in-box of "419" scams, mortgage-refinancing offers and coupons for cut-rate aphrodisiacs. According to Paul Graham, who developed one such filter, he catches 99.5 percent of spam with less than .03 percent false positives, while Bill Yerazunis' CRM114 claims accuracy over 99.9 percent on his live incoming e-mail. That means that out of 5,849 messages, 1,931 of which were spam and 3,914 nonspam, only four spam messages got through.

Bayes' theory quantifies the change in probability of a hypothesis' being true in the face of new evidence; it basically modifies the prior probability based on the degree to which the new evidence has been associated with the hypothesis in the past.

In other words, legitimate e-mails might discuss Nigeria, and legitimate e-mails might discuss diamonds, but an e-mail that contains both the words "Nigeria" and "diamonds" is almost certainly a scam, unless that e-mail also contains the phrases "Bayesian belief networks," and "sample code" (phrases that have a high statistical probability of being associated with legitimate e-mail).

A Bayesian belief *network* is essentially a graph of interdependent nodes whose probability is updated as new evidence becomes available. As such, they require large amounts of training data, are computationally intensive and, in practice, are dependent on significant preprocessing of the data. All three of these contributed to the fading from view of BBNs in the early 1990s, when the trend in studying machine learning shifted toward classification algorithms.

Right now, for me the probability of a new piece of e-mail being Unsolicited Commercial E-mail (what a blandly nonoffensive name) is about 40 percent. Every indication is that those probabilities are going to go through the roof before any kind of systemic solution takes hold (and by "solution" I don't mean legislation, but something like charging a dime for a position in one's inbox for those not on a whitelist). Worse, the fad toward server-side filtering seems to be proving worse than the disease. I hate getting spam, but not nearly as much as I hate having received messages through alternate accounts saying, "Hey, your server is bouncing e-mails."

When, by coincidence, the day after reading Graham's discussion on the use of BBNs against spam (www.paulgraham.com/better.html) I read an article from Eric Horvitz and others from Microsoft Research that prominently mentioned BBNs (albeit in the unrelated domain of attentive user interfaces), I thought I might have the scoop on the vaunted antispam measures to be expected in Outlook and Exchange 2003. (So far, Microsoft has kept mum on the specific technologies used.)

Microsoft Research published one of the very first articles on the use of BBNs in mail filters, but the success rate was not nearly what Graham and Yerazunis reported, and the conclusion of the article is researchese for "BBNs are limited—on to Support Vector Machines!"

One thing that's interesting is that one can clearly anticipate how the spam-versus-BBN battle will unfold. Since BBNs are entirely based on conditional probabilities, spam will become less obviously "spammy"—I think we can anticipate the rapid dwindling of the word "$UCE$$" and multiple exclamation points!!!!!!!!!! (As if people think "*Ten* exclamation points? Gee, maybe this really *is* my last opportunity to refinance at these rates!!!") The e-mail will shift toward pretending to be either joke forwards ("Funny! Check it out:" followed by a link to the "real" spam) or contain vast quantities of prosaic text below the signature line to diminish the relative influence of the "spammy" text. And yet, one can anticipate integrating a whitelist and some amount of higher-order reasoning to battle such things.

Nevertheless, the inherent nature of mass e-mails is that they are more probable to contain certain characteristics than legitimate e-mails. This is enough of a weakness that sufficiently powerful computational resources (like a modern desktop computer) can accurately categorize them with a very low rate of false positives. For SD Times readers, who are savvy enough to install plug-ins themselves, the time has come to take control of your inbox, as you contemplate the power of Bayesian belief networks. ▮

Larry O'Brien is an independent technology consultant and analyst, and the founding editor of Software Development Magazine.

guage problem in action specs. UML tools are now supposed to offer action-spec features, but the UML doesn't standardize an action-spec language in detail. With business rules thus, standardization could begin at MDA's Platform-Independent Model level and aim at a semigraphical rule modeling standard to start with, allowing people to use whatever they prefer at the (inference) Platform Specific Model level when coping with the specifics of backward/forward chaining, pruning, conflict resolution or just mainstream code generation. At this latter level (PSM), standard model-interchange format (such as XMI with UML) is an instrument of some standardization, too: Whatever your proprietary extensions, they still have to fit into XMI.

Also, best-practice issues can be postponed or factored out completely (into user guides and handbooks to come later). Extensive parameterization (UML 2) comes in handy with business rules-alignment to rule induction and information mining, intelligent agents and machine-learning rule-logic modularization to facilitate maintenance, upgrades or (inferencing) performance.

Examples of the latter modularization are right-side OR and left-side AND. In the long run, it's best to replace compact rather than comprehensible formats by several simple rules. Instead of "If (A or B) then (C and D)," you make it four separate rules, saying "If A then C," "If A then D," "If B then C," "If B then D," in order to improve, for example, maintainability of a knowledge base. The standard can either exclude the trickier style right away from the syntax or simply skip the issue and recommend the modular style as a best practice in a user guide. In my opinion, the effect on everyday industry practice would be similar.

I agree with Mr. Hendryx, of OMG's Business Rules SIG, that it's extremely important to sustain a business focus at the PIM level. We've been through a rule wave a decade ago, in relational databases; unfortunately, 99 percent of those rules turned out to be data-storage rules (of referential integrity, etc.) and didn't rule out much rule trouble at the business level, did they?

Milan Kratochvil
MBA, consultant
Stockholm/Kista

BACKGROUND STORY

Thank you for the story about Celebrate Software ["Software Company Celebrates Life," Jan. 15, page 1, or at www.sdtimes.com/news/070/story3.htm]. I think it is a great story. Knowing a bit of background of what drives a company always provides a great context about the company.

Dorai Thodla
iMorph Inc.

WHAT DO YOU THINK?

SD Times welcomes feedback. Letters should include the writer's name, company affiliation and contact information. Letters become the property of BZ Media and may be edited for space and style.

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Solstice Tests Integrated Environments 4
Borland's Janeva Weds J2EE, .NET 4
Rising Memory Equals Performance! 4
Data Junction to Deliver Tools for Custom Integration ..7
There's a New Aspect to JBoss 8
Modernizing COBOL A Matter of Relativity 9
Mercant Brings New Dimensions to Asset Management Suite 10
Magic Adds Messaging To Development Tool 12
Blue Titan Knits Fabric For Web Services 12
SourceForge Houses 'Gated Communities' 14
.NET a Wise Choice For Installation Tool Vendor 14
ITKO Knocks Out Defects From Applications 16
ComponentOne Bundles With C#Builder 26
eHelp Puts Some Flash Into RoboHelp 27
LabView 7 Targets Palm OS, Pocket PC, FPGA Devices 29
Virtio Emulates TI's OMAP Innovator Hardware Kit 29
PointSource Builds Enterprise Muscle 29
IBM Enables Web Services On Point, Symbian, J2ME ..30
Altium Sings A DotC Tune 30

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SLASHING WINDOWS CE PRICES, CAPABILITIES TO THE CORE

Microsoft to compete in new device markets

BY EDWARD J. CORREIA

On the heels of Microsoft Corp.'s landmark move to allow customers to market changes to Windows CE source code, the company on June 1 is releasing Windows CE .NET 4.2 Core, and is slashing the starting price for commercial deployment of its embedded operating system from US$15 to $5 per device. Prices drop even further with volume, but the company declined to reveal just how low they go.

— continued on page 33

CORE OPERATING SYSTEM SERVICES
Capabilities new to Windows CE 4.2 and included in the Core edition

Networking: Bluetooth gateway; Built-in CDC Bluetooth stack; Bluetooth keyboard and mouse HAL; L2CAP/RFCOMM
Communications: Firewall service; SERIAL.TDLL codec; UPnP host; TAPI telephone client; L2NP provisioner; File provisioner
Kernel/processor: Reference manager; Wireless access point (WAP); Debugging; Touch driver; Soft KBD
Servers: File server; Print server
File Systems: Binary XIP image file system; Executable sets (X) file system

IBM Makes Move For RAD Market

Introduces tools for development, testing under Rational division

BY DAVID RUBINSTEIN

Hoping to attract a group of developers it admittedly has not been effective in reaching, the Rational division of IBM Corp. this month is releasing a new rapid application development tool that it's calling Rapid Developer. Also, the company is enhancing Rational XDE and renaming it Rational XDE Developer, introducing XDE Tester and offering the Unified Process in a way claimed to allow greater customization.

The releases mark the first major upgrades since IBM acquired Rational Software Corp. in a deal finalized earlier this year, and indicate where IBM sees the development market going, according to Roger Oberg, IBM's director of market management.

Rapid Developer is based on the notion of architected rapid application development, which chief technologist Arun Gupta explained as a way "to move RAD up to meet the needs of enterprise applications."

DEVELOPER PROFILES

SUN ONE/J2EE MARKET SIZE	SUITABILITY OF CURRENT TOOLS FOR MISSION APPLICATIONS
J2EE (SUN,IBM)	Highly suitable RDs
Java (1.2 million)	Low to moderate suitability, too difficult
PowerBuilder 4GL, COBOL, RPG (1.3 million)	Ideal for legacy development, IBM targeting for Java or Microsoft development
4GLs (2.4 million)	Low suitability for future deployments, but tools will go to VS.NET
C++ (1.3 million)	Highly suitable, tools go to C#

Geared from technology acquired by Rational last August when it bought development tools company NeoVis Inc., Rapid Developer introduces business-level UML modeling, using predefined J2EE archi-

— continued on page 33

Sun to Unveil J2SE 1.5 at JavaOne

BY YVONNE L. LEE

Sun Microsystems Inc. will take the wraps off Java 2 Platform, Standard Edition (J2SE) version 1.5 at its JavaOne developers conference in San Francisco June 10-12. The new version of the Java platform is designed to be easier to use, with new language features, including generics and metadata.

Sun refers to J2SE as 'Core Java,' says Shipe.

"J2SE is the core of all Java technology," said Karen Shipe, product line manager for J2SE. "We're actually starting to refer to it [internally] as Core Java."

New features in the release, scheduled for the first half of 2004 and code-named "Tiger," fall along four themes, she said. Those themes are ease of development, monitoring and management, reliability, availability and serviceability, and performance and scalability.

Sun will discuss the latest versions of J2SE both at a formal session and at a birds-of-a-feather meeting.

Features designed to make development easier with the new version of the language are in support for generics and metadata, Shipe said. Generics are classes and methods that work the same way on values of different types. Metadata enables tools to generate boilerplate code from annotations in the source code. Since the compiler, rather than the programmer, generates the code, it is less likely to have errors, says Sun.

According to Shipe, J2SE 1.5's new monitoring and manageability features include bundled Java Specification Requests including some Java management extensions, which had previously been available only as optional packages. Shipe did not specify which

— continued on page 33

SCO TAKES ANOTHER SWING AT LINUX

Unix owner raises fear, uncertainty, doubt

BY YVONNE L. LEE

The SCO Group in mid-May turned the axis in its quest against what it believes is Linux infringement of the company's intellectual property to Unix, dropping to sue Linux distributions and issuing letters to hundreds of major customer-

— continued on page 33

SD Times 100 Innovators And Leaders
page 19

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BPA INTERNATIONAL

THE UPTURN IS COMING

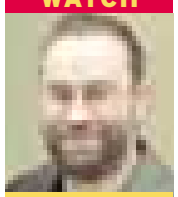
For the longest time during this recession, top management didn't care a bit about keeping programmers happy—or even on staff. Given a choice between making the bottom line look better by firing employees and actually improving productivity and cutting executive perks, the chief officers kept their Lexuses and threw developers on the street.

The economic times, though, are finally changing, and IT is on the road to recovery. Many companies that used smoke and mirrors for their finances are either out of business or their officers are sitting in courtrooms. The businesses that are left are finally thinking that it's time to, if not upgrade their infrastructure, at least upgrade their programs. The dot-coms that are left have real business plans, and they need software as well.

That's not just my perspective. Sure, some people, like Larry Ellison of Oracle, continue preaching more doom and gloom. However, other folks, like Tom Siebel of the company that bears his name, think that IT is poised to start growing again. I agree.

Don't get me wrong. I don't think we're ever going to see a return to the late 1990s when six-figure salaries were common for entry-level coders, and everyone in your neighborhood was a stock-option millionaire. And yes, the days when every office came equipped with a pinball machine, a $2,000 Capresso espresso machine and in-house massage therapists are gone. If you're still hoping for high-life living from software development, get over it. You have a bigger task ahead: restaffing your decimated ranks of programmers.

JAVA WATCH



STEVEN J. VAUGHAN-NICHOLS

How do you find the right people? You probably already know them. I could staff a top-notch software development company from CTO to entry-level code librarian just from the people in my Rolodex who are either unemployed or woefully underemployed.

The first thing you should look for is people who are good—*very* good—at delivering code. I've known way too many programmers who were good at talking the talk, but couldn't walk the walk if you gave them a compass and a detailed map.

You'll also want to avoid people who still can't get over their bitterness over the dot-com crash. Trust me, I wasn't happy that I lost my day job, had to go back to full-time freelancing and saw my income drop by half either. You know what, though? I got over it. If they still haven't, let them go to their therapist…not your office.

And then there are those developers who promise you the world and deliver nothing within a month of the real deadline. You didn't need them before, and you sure don't need them now.

Personally, I don't care about dress codes, time clocks or what someone's cube looks like. I also don't give a fig whether a developer uses a RAD, is an Extreme Programming zealot, or thinks that agile processes will save the development world. The only thing I care about is results. If someone can deliver good work in a timely fashion, I don't care how they get there.

So, for example, if someone wants to work from home, and—this is the important part—you know they can do it, let them. A happy and productive developer is worth it. Besides, if they're working from home, that's 150 square feet worth of office space and utilities you don't have justify in your budget.

You also may want to keep your eye out for programmers who are new to Java, but *not* new to development. A lot of Visual Basic developers aren't moving on to VB.NET. And, despite Microsoft's best efforts, many of those VB developers are heading not to C++ or C#, but to Java.

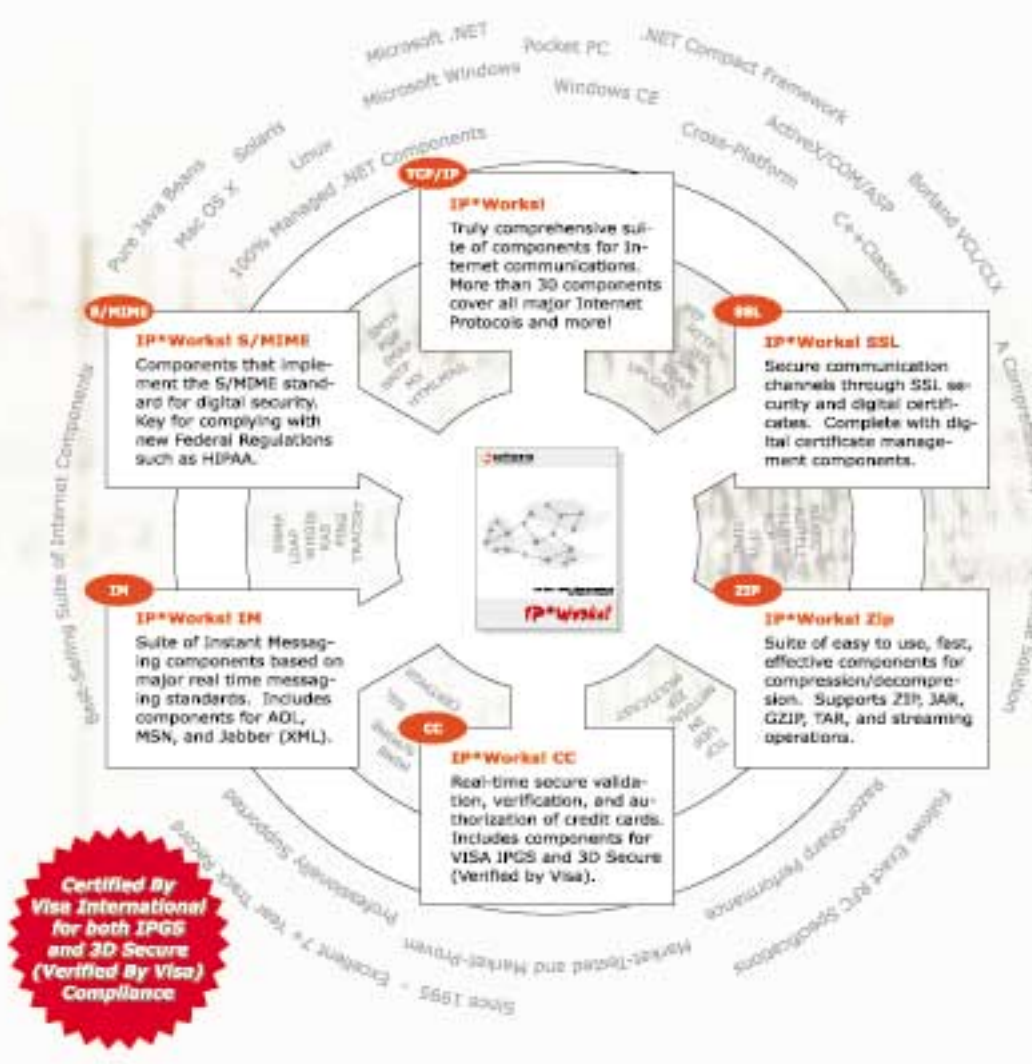
Sure, everything else being equal, I'd rather hire a great guy or gal who's been programming for JVMs since the first coffee jokes appeared. Failing that, given a choice between someone who's still wet behind the ears but had a ton of Java classes in school and a programmer who has a track record of delivering production programs in Visual Basic (or LISP, Smalltalk or C++) and who's now picking up Java, I'll go with the experienced programmer every time.

The ability to program well, regardless of the specific language used, is a combination of talent, good work habits and will. You can talk about computer science all you want, but a great programmer is more of an artist than a technician. You can teach a technician, but you can't teach an artist.

So, if you're interested in having your company's work start appearing in some customer's gallery of great software, now is the time to start thinking about hiring.

The great times will never be back, but the good times are about to begin again. ▮

Steven J. Vaughan-Nichols is editor of Practical Technology (www.practical-tech.com) and has worked as a programmer for NASA and the Dept. of Defense.



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JBOSS COMES ON STRONG

One of the most curious aspects of the open-source movement is that it began to take off only once it abandoned its desktop focus and began providing server solutions. While the Free Software Foundation offered a valuable leg up by making good development tools widely available, its continual branching into desktop-oriented products enabled another community, Linux developers, to fulfill GNU's original mission statement—write a free, open-source version of Unix. From there, the open-source movement really established its creds by focusing on the server side with Apache, Tomcat, PHP, and of course, the MySQL database.

As each of these solutions has penetrated into IT, the entryway has been widened a little for the next product.

The latest open-source tool to step across this threshold is JBoss (www.jboss.org), a J2EE clone, whose development has been headed by Marc Fleury. Fleury was a Java engineer at Sun when, in 1999, he decided to tackle what was probably the largest single open-source undertaking ever: providing all of J2EE's myriad technologies and have them be certifiably standards-compliant.

The success of the work done by Fleury and the JBoss community is testified to by the accelerating acceptance of the product in the marketplace. The group's Web site claims 2 million downloads last year, and 1.5 million so far this year. How many of these downloads make their way into production is unclear.

In the more-critical measure of mind share, JBoss is rising rapidly. webMethods, for example, recently announced it would embed JBoss as its default Java app server. Likewise, several vendors are on the verge of announcing that their embedded solution will be JBoss as well. At JavaOne, the annual confab and shindig of the bytecode crowd, you should expect to see several such proclamations as well as a more visible presence for the freeware alternative.

MIDDLEWARE WATCH

ANDREW BINSTOCK

In response to my own vendor inquiries regarding which Java application servers they must accommodate to close sales, recent answers show a departure from last year's. BEA's WebLogic and IBM's WebSphere remain indistinguishably tied for the lead, and Oracle's 9iAS is now third—a clear advance. To this ranking, vendors have been adding the comment, "And we're starting to see a lot of inquiries about JBoss."

This means that in terms of perceived importance, JBoss has leapt ahead of Sun ONE and Macromedia's JRun—for which there is no visibility even when I explicitly ask about these products. (The only other mentioned product, Borland's AppServer, shows up mainly in small shops committed to the JBuilder environment.) As you can see, the market shakeout continues apace, and yet product positions were not sufficiently screwed down that an open-source alternative could not sneak into the final group.

(Actually, is there any sector of technology so fixed, that an open-source competitor could not sneak in? Desktop operating systems and applications may be beyond reach, but even there, the prospects of Linux's ultimate penetration cannot be ascertained today.)

JBoss' Fleury is now following in the tradition established by Michael Tiemann when he headed Cygwin: He's building a profit-making business by offering support for free-software customers. Given that J2EE applications are inherently complex, I expect Fleury to do well.

His success will have interesting effects on the market. The first segment to benefit are software vendors, like webMethods, who need an embedded Java app server. For them, JBoss is a lifesaver, because it's free and it's of sufficient quality for their needs.

One challenge for the upstart: To begin eroding at the installed base of the minor players in the Java server market, JBoss needs to obtain full J2EE certification from Sun and to improve its installation routines. To hear Fleury describe it, J2EE certification was held up by Sun's insistence on steep fees for certification testing.

While it's true that many other vendors also have complained loudly about Sun's certification costs, it's not clear that a for-profit company should be entitled to any special consideration simply because its product is open-source and free. Users who compare JBoss to certified J2EE implementations contend that JBoss is not quite ready for certification. Until it is ready and has received the official imprimatur, it cannot compete effectively for IT dollars, even against products in the second tier. However, I expect JBoss will rectify this shortcoming soon, and then another open-source success story is likely to unfold. ▮

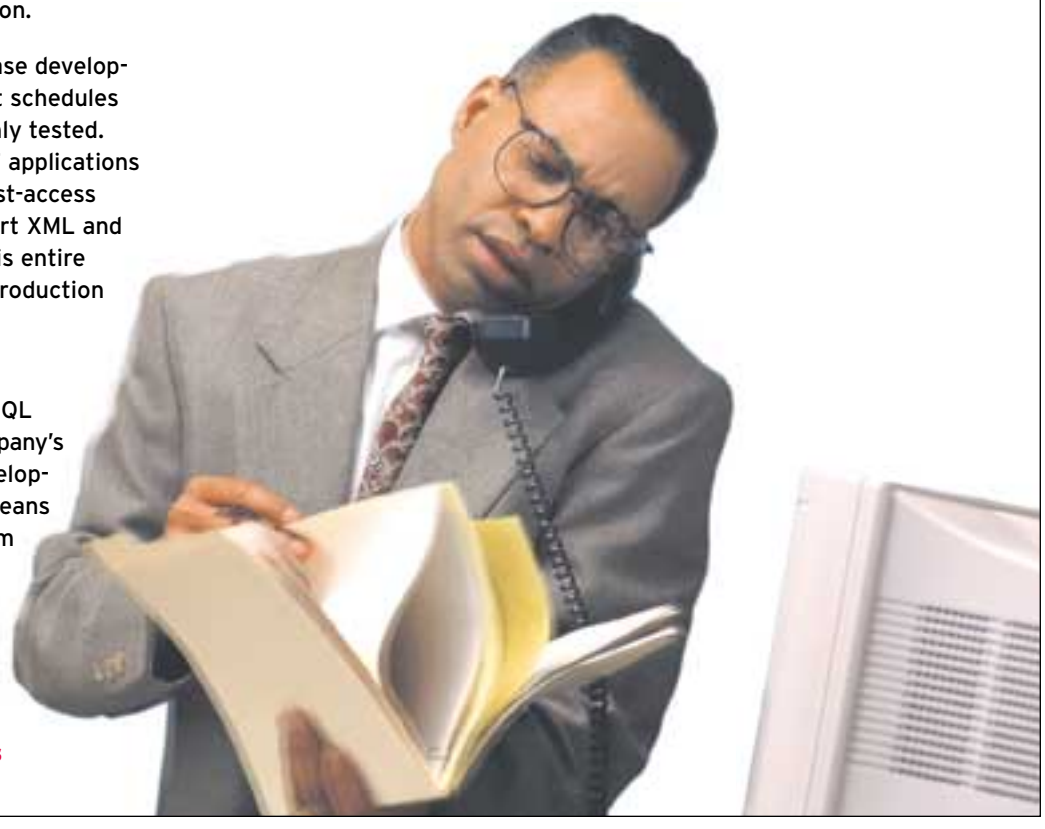
Andrew Binstock is the principal analyst at Pacific Data Works LLC.

Meet the Database Developer's Boss

When he looks at the hard drive in his new laptop, he just laughs. Forget about 20 gigabytes — his data centers contain more than 200 terabytes of information in DB2, Oracle, SQL Server and Sybase. And that's just in his supported database applications. There's unfortunately no way of telling how many other clusters of enterprise information are scattered around the organization.

He has the best job in the IT department: Managing database development is never dull. Sure, it's tedious working out the report schedules and ensuring that backups and disaster plans are thoroughly tested. But his colleagues who are building *n*-tiered Java and .NET applications are keeping him busy documenting schemas, extending host-access services and updating his core database software to support XML and Web services. In fact, he's never seen so much change in his entire career — not since the days of IBM System/370 and the introduction of CICS. And he loves every minute of it.

What does he read? While he skims the database and data warehousing monthlies, he's long past his days of writing SQL series or building tables. After all, his job is to guide his company's progress by ensuring that his databases and database developers are in sync with business priorities. These days, that means looking outside the database world into the entire spectrum of application development. He needs to know the trends, the products, the alliances, the NEWS and what it all means. That's why he reads *SD Times*.



SD Times SOFTWARE DEVELOPMENT

The industry newspaper for software development managers

IBM'S THORNY ISSUE

INDUSTRY WATCH

DAVID RUBINSTEIN

The bloom, apparently, is off the Rose. The word from development shops using IBM's Rational Rose UML modeling tools is that they are standing pat, waiting to see if IBM/Rational will try to move them into the XDE modeling and development environment. Several customers already are said to be looking for other alternatives in anticipation of that occurrence. And, while IBM says it will continue to update and support Rose as an important piece of its suite of tools, its investments and recent announcements say otherwise.

This really isn't a surprise. When XDE first was announced last year, I asked Rational why it needed a second modeling tool when Rose already was the leader in the space. Bill Taylor, then Rational's director of marketing, answered that XDE was for developers using the Rational development environment, but for development shops using other IDEs—among the examples cited at the time was Borland's JBuilder, ironically enough—Rose still would be the tool of choice. Borland, of course, since has purchased TogetherSoft and in March dropped both Rose and the Rational Unified Process from its JBuilder Suite.

It seems now that there's a lot of consolidation going on up in Armonk. First, IBM is trying to consolidate its customers into the XDE suite, which you know is going to be tied fast and then melded into the WebSphere development and deployment platform as quickly as the company thinks it can without completely alienating customers and partners.

The first part of this—moving customers from Rose to XDE, clearly was in response to the momentum generated by TogetherSoft's ControlCenter in the past couple of years. With Control Center, developers could work in the IDE, and whatever code they wrote would be reverse-engineered into a UML model; if they chose to work from the design end, the code automatically would be updated with changes to the model.

But Richard Hubert, the CEO of Germany-based Interactive Objects, called this "a seductive illusion. It gives you the feeling that you can have your lunch and eat it, too."

IBM apparently thinks this is the way to go, and has tied its development environment to the modeler, which all will be tied to WebSphere. With its recent announcement of XDE Developer, IBM supports the Eclipse development framework and WebSphere Studio, along with Microsoft's Visual Studio .NET environments. Interestingly, when then-independent Rational announced XDE in February 2002, it faulted TogetherSoft for requiring use of its own IDE; now, it appears, the IBM-owned Rational tools are being tied closely to two IDEs.

The Rational tool suite has been updated twice annually for a few years now, yet the most recent announcement clearly emphasized XDE, and its integration with the IDEs. While the company said the entire suite was updated, when pressed for particulars, director of market management Roger Oberg would say only that the changes involved usability, integration and additional standards support. Rose is part of the suite, and IBM didn't feel any enhancements to that tool were worth noting.

And, while IBM's thought leaders continue to advance the Unified Modeling Language through Object Management Group, it appears the company has no intention of supporting OMG's Model Driven Architecture (MDA).

For that reason, and others to follow, Interactive Objects made the decision last month to drop Rose from its future tool offerings and replace it with a modeling tool from No Magic Inc., MagicDraw.

"Instead of moving up to where we are" with the MDA, Hubert said, "they decided to chase TogetherSoft. Well, they still haven't caught TogetherSoft, and now they've also lost touch with MDA. They're actually further away than they were with Rose."

According to Oberg, IBM's investments in XDE "reflect where we think the market is going." That vision seems to be one of bringing UML tools to "business analysts"—the code word for developers who lack extensive skills in modeling or Java—and out of the arena of architects, who generate models, and then throw reams of diagrams over the wall at programmers, who may or may not follow the design, let alone understand it.

Many industry analysts and advocates of modeling believe this is a good thing, claiming that what modeling and MDA need to gain traction in the enterprise is a way to involve developers in the process. They also need to be convinced that the code generated from models is ready or close to being ready for production.

However, limiting developers' choices regarding the environments they can use to create their applications is not something they will appreciate. Folks like to use tools they know and understand and feel comfortable with; trying to move them into a new IDE by switching up how the modeling tool can be used will not be seen as any kind of advancement.

Platform and tool neutrality is critical. A war of philosophy among UML vendors clearly is budding.

David Rubinstein is executive editor of SD Times.

BUSINESS BRIEFS

Migratec Inc. is considering its options in the face of dwindling revenues and mounting debt caused by the slowdown in IT spending and protracted delays in anticipated customer contracts. The company reported in May that it had US$1,895 cash on hand and $642,000 in debt, with $20,700 in outstanding receivables. The company is holding talks with equity investors and debt financing sources; meanwhile, it is reducing significantly its workforce and evaluating a possible sale or merger. Migratec is one of the SD Times 100 leading innovators for 2002 with its 64-bit migration strategy . . . Barry Morris has been allowed to step down as CEO at **Iona Technologies Inc.,** a spokesman said, as the company struggles to return to profitability and clarify its market position. Acknowledging the company has had "a strategy du jour," switching its emphasis from CORBA to J2EE app server vendor to e-business integration solutions provider and now back to CORBA, the spokesman said company co-founder and board chairman Chris Horn will assume the role of CEO, while Kevin Melia, who has been on the board of directors since 1994, will become its chairman. David James, executive vice president of corporate development, also has resigned . . . A nonexclusive due diligence period for **Vector CC Holdings LLC** to pursue an acquisition of **Corel Corp.** has passed without a deal being struck. The two sides continue to discuss a potential transaction, and still are bound by a standstill agreement entered into on March 24, which prevents Vector from a hostile takeover of Corel . . . **IBM Corp.** is acquiring privately held Canada-based software company **Think Dynamics** for its ability to dynamically allocate system resources in response to system failures. The technology is a key element of IBM's on-demand strategy; terms of the purchase were not disclosed . . . The board of directors of **Compuware] Corp.** has approved a US$125 million stock repurchase program to be executed over time based upon market and business conditions. The company reported fiscal-year 2003 revenues of $1.375 billion, down from $1.741 billion in 2002, but reported an income of $103.1 million as compared with a loss of $245.3 million in 2002. ■

CALENDAR OF EVENTS

Software Management & Applications of Software Measurement June 2–6
San Jose
SOFTWARE QUALITY ENGINEERING
www.sqe.com/sm

Serena XChange 2003 June 8–11
Hollywood, Fla.
SERENA SOFTWARE INC.
www.serenaXchange.com

USENIX Annual Technical Conference June 9–14
San Antonio
ADVANCED COMPUTING SYSTEMS ASSOCIATION
www.usenix.org/events/usenix03

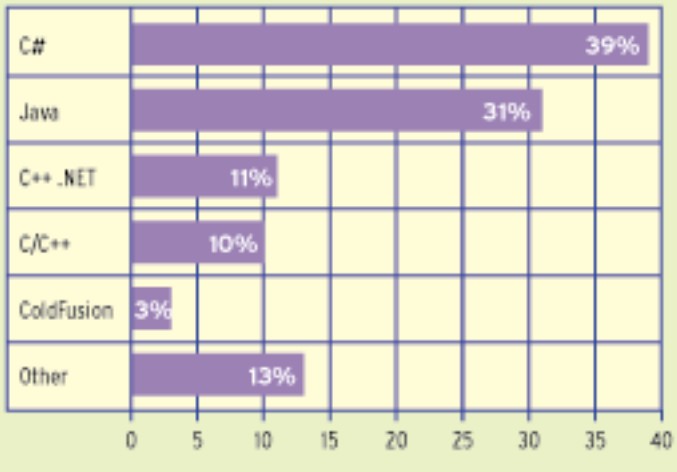
JavaOne June 10–13
San Francisco
SUN MICROSYSTEMS INC.
http://java.sun.com/javaone

For a more complete calendar of U.S. software development events, see www.bzmedia.com/calendar.

Information is subject to change. Send news about upcoming events to events@bzmedia.com.

DATA WATCH

Languages Whose Use Will Increase By Those VB/VB.NET Developers Who Plan to Use VB/VB.NET Less



Source: North American Development Survey, Volume 1, 2003, Evans Data Corp.

www.evansdata.com

Has the introduction of the .NET platform made Visual Basic more—or less—appealing to its developers? The story is definitely mixed, according to Evans Data Corp.'s North American Development Survey, Volume 1, completed in April. The research showed that 45 percent of developers use Visual Basic today, and 22 percent use the language for more than half their work. About two-thirds of developers said they'll no longer be using the pre-.NET editions of Visual Basic (6.0 or earlier) by this time next year, a drop of nearly 9 percent from the current level.

What about the newer VB.NET? Only 22 percent of developers use that language today—but about a third of developers surveyed said they'll use VB.NET next year.

Of those developers who intend to reduce their use of Visual Basic and VB.NET, which languages will they use more? The largest group said they intend to increase the use of C#, followed by Java. A far smaller number said they would adopt C, C++ or Microsoft's C++ .NET.

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With Perforce, the fast way is the right way. Install it fast, learn it fast, run it fast. With other SCM systems, developers face an unpleasant choice: do it the right way or do it the fast way. Perforce's speed and reach mean the fast way is the right way. See how Perforce compares with other leading SCM systems at: http://www.perforce.com/perforce/reviews.html

Run at full speed even with hundreds of users and millions of files. At the core of Perforce lies a relational database with well-keyed tables, so normal user activity can be accomplished in near-zero time. Larger operations (like labeling a release and branching) are translated into keyed data access, giving Perforce the scalability that big projects require.

Develop and maintain multiple codelines. Perforce's Inter-File Branching lets you merge new features and apply fixes across codelines. Smart metadata keeps track of your evolving projects even while they are developed in parallel.

Truly cross platform. Perforce runs on more than 50 operating systems, including Windows®, UNIX®, Linux®, Mac OS® X, AS/400, and more.

Integrate with leading IDEs and defect trackers: Visual Studio.NET®, Visual C++®, Visual Basic®, JBuilder®, CodeWarrior®, TeamTrack®, Bugzilla™, ControlCenter®, DevTrack® packages, plus more.

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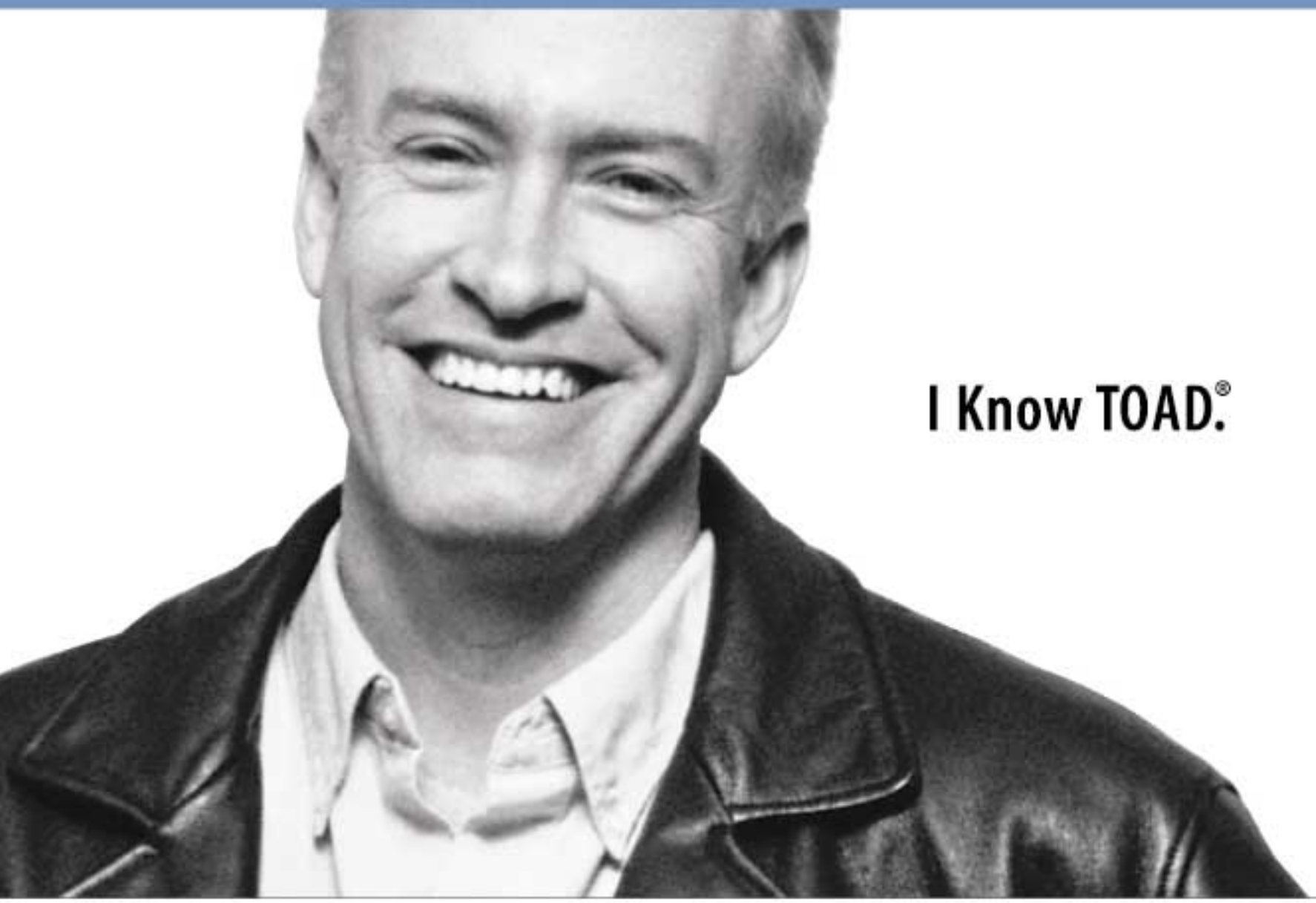

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